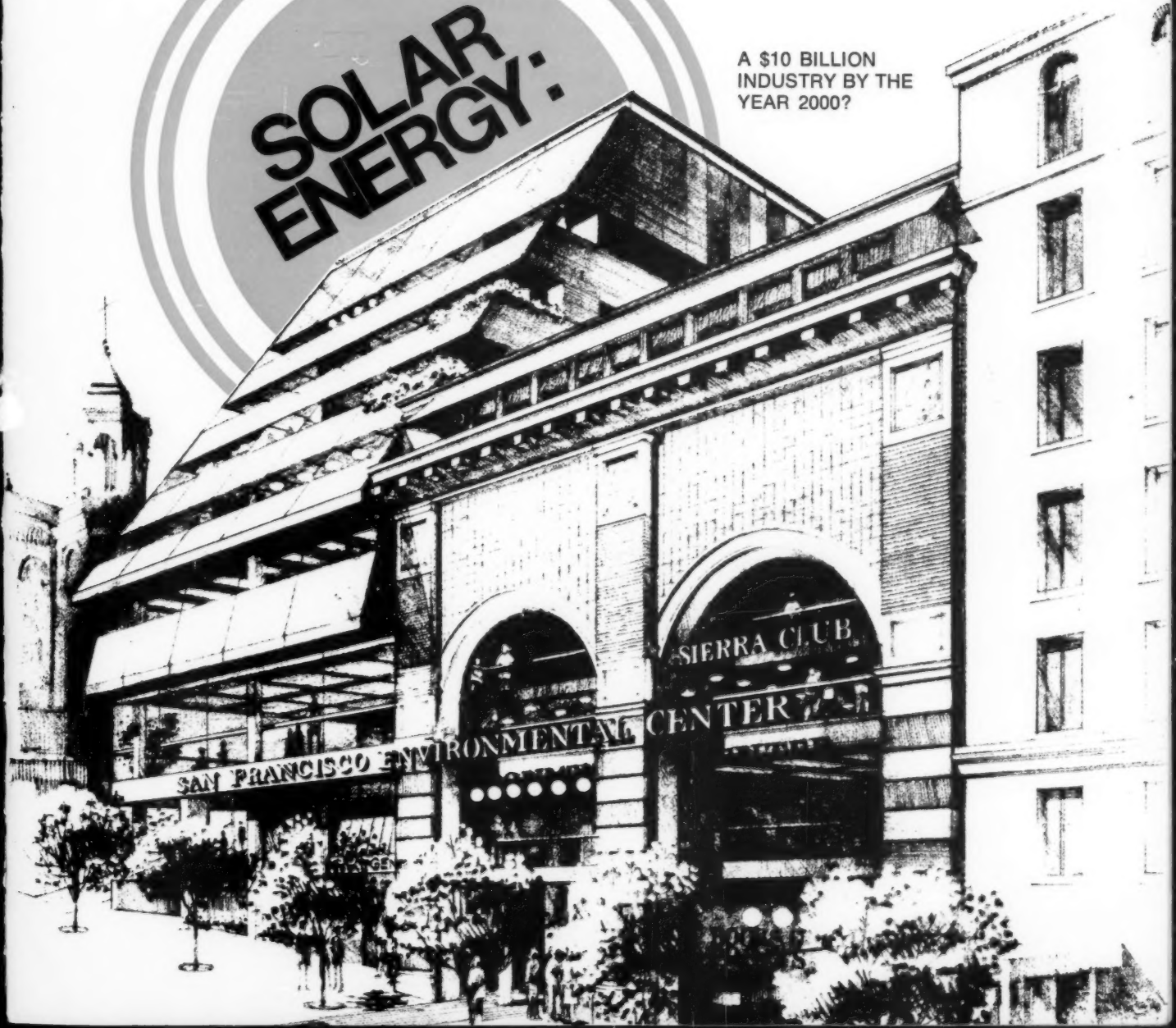
COMMERCE AMERICA

U.S. Department of Commerce / January 17, 1977

SOLAR ENERGY:

A $10 BILLION INDUSTRY BY THE YEAR 2000?



Newsmemo

A plentiful supply of mortgage credit brought a new record in single-family home sales in 1976. The National Association of Realtors reports that first 10 months sales reached 2,569,000 in the existing single-family home market, up from the comparable 1975 figure of 2,452,000. The median sales price in October of an existing single-family home was $38,500, up 8.8 percent in a year. Some regional median prices: West, up 19 percent to $48,300; North Central, up 10.6 percent to $33,500; Northeast, up 6.7 percent to $41,200, and South, up 4.1 percent to $35,900.

Worldwide statistics show that liberalized trade policies have paid off. Robert M. Norris of the National Foreign Trade Council notes that total exports of all trading nations have increased in value from about $50 billion in 1947, when the first GATT round of tariff negotiations was concluded, to an estimated $950 billion in 1976. While prospects are that such exports will cross the $1 trillion line in 1977, Norris believes that this will depend on maintenance of international cooperation to avert unilateral restrictions on trade. He urges that momentum be maintained in 1977 to achieve a maximum level of trade liberalization in the current GATT negotiations.

Some important industry-wide collective bargaining sessions will be held this year. Agreements to be renegotiated in 1977 include: major oil companies and the Oil Workers, 38,000 employees; the basic steel industry and the Steelworkers, 365,000 employees; Bell Telephone System and the Communications Workers and IBEW, 650,000 workers; railroads and the rail unions, 456,000 workers; mining companies and the United Mine Workers, 125,000 workers, and the Clothing Manufacturers Association and the Clothing and Textile Workers, 110,000 employees.

Increased employee health care costs are worrying U.S. firms. The National Association of Manufacturers estimates that health benefits now represent about 6 percent of payroll expenditures. At a series of fall conferences, the NAM advised its member companies to: get involved in management and financial expertise for hospital and health planning agencies, save medical costs through employee health maintenance organizations, set up "second opinion" programs on surgery recommendations, work with health care providers on improved use of their services, and educate employees about health care costs.

How much information should be on a fabric care label? Hearings by the Federal Trade Commission this month could lead to revisions of instructions on apparel items to cover bleaching, drying and drycleaning and add new labels on carpets, rugs, yarns, piece goods and other textile components. The FTC holds that "dry clean only" is misleading when some home laundering is sufficient, and "do not bleach" is also wrong when some bleaches will not hurt the fabric. But textile makers and retailers contend that complex instructions will only confuse the consumer. Garment testing procedures to determine exact levels of care required can be costly, too, industry representatives argue.

Annual Meeting Deductible For U.S. Companies. This leading headline in the December issue of the bulletin of International Business Forms Industries will undoubtedly be repeated, in various versions, in many trade association publications. It refers, of course, to the Tax Reform Act of 1976. The IBFI bulletin summarizes: "Contrary to some beliefs [the Act] does not eliminate deductibility for foreign convention expenses; it merely limits deductibility." Then, pointing out five ways in which the tax legislation deals with such deductions, the IBFI explains how it is designing its May meeting in Mainz, Germany to meet the new conditions.

The U.S. government, viewed as a customer: it could be the best anywhere, also the toughest. Honeywell President Edson Spencer submits the verdict. The government, in its role as an exacting purchaser, can cancel, inspect, audit, sue and refuse to be sued, he notes. On the other hand, it can assist needed research, and is a dependable, growing market with few cyclical changes. Furthermore, doing a good job for the government provides a rewarding sense of accomplishment, Spencer sums up.

COMMERCE AMERICA
FORMERLY COMMERCE TODAY

CONTENTS

Vol. II, No. 2, January 17, 1977

4
Solar Energy: A $10 Billion Industry By The Year 2000?
A government energy official predicts 17 million or 15 percent of the nation's buildings will be heated by the sun by the end of this century.

8
Management Finds A New Technique To Increase Productivity
Significant results are being reported in reducing stress and improving work habits by firms employing Transcendental Meditation.

2 Economic Highlights
Personal taxes will take a larger share of personal income in 1977 than in 1976 under present tax laws, a factor that will reduce the private sector's potential contribution to economic growth.

11 Energy Digest

12 Domestic Business Report
Commerce specialists see year of moderate economic gains—U.S. business expects capital investment to rise 11 percent in 1977—Fee schedule proposed for foreigners fishing within U.S. 200-mile zone—Latest Statistical Abstract contains more than 100 new tables—Pocket Data Book is handy reference source—Inaugural weather likelihood: fair and cold—Product liability problem not yet at crisis levels—Eight-year program aims to rejuvenate fishing industry—Port Everglades gets 21st U.S. Foreign Trade Zone—Calendar of business events.

20 International Commerce Report
Report of U.S. machine tool mission in Korea, Taiwan, Philippines—Official Trade Briefs—Pictorial report on Iran trade exhibitions—Economic trends in Netherlands, New Zealand, Guatemala, Dominican Republic, Haiti, Yemen, Rwanda—Calendar for world traders—Licensing, investment opportunities with foreign enterprises—Trade opportunities from around the world.

COVER: Solar heating will provide 80 percent of the energy requirements of San Francisco's Environmental Center when it opens in May. As headquarters for Bay Area environmental organizations, the Center is one of a growing number of solar-heated facilities popping up around the country. The story beginning on page 4 tells of this developing industry.

U.S. DEPARTMENT OF COMMERCE
ELLIOT L. RICHARDSON
Secretary
EDWARD O. VETTER
Under Secretary

HORACE S. WEBB
Director of Communications
RICHARD BALENTINE
Editor
CLARENCE M. ZENS
Associate Editor, International Commerce
ARTHUR McDERMOTT
Associate Editor, Domestic Business
CHARLES MESSINA, JR.
Graphics Coordinator
Staff Writers:
Douglas F. Carroll, Felix Cotten, Margaret L. Hanson, Leslie Wilder.

Published biweekly by the U.S. Department of Commerce, Washington, D.C. Annual subscription rate $29.80 ($7.45 additional for foreign mailing, $5.75 additional for domestic air mailing). Single copy $1.15. Make checks or money orders payable to Superintendent of Documents and mail to Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or to any U.S. Department of Commerce District Office.

All subscription inquiries and address changes should be sent to the Superintendent of Documents, at the above address. This is the central distribution agency for U.S. Government publications.

Microfiche copy available at $2.25 per issue from National Technical Information Service, Springfield, Virginia 22151. Other inquiries should be sent to the U.S. Department of Commerce, 14th Street and Constitution Avenue, N.W., Washington, D.C. 20230.

Contents of this publication are not copyrighted unless indicated, and if not so indicated, the articles may be reproduced in part or in full without any prior consent. The Secretary of Commerce has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this department. Use of funds for printing this periodical has been approved by the Director of the Office of Management and Budget through August 31, 1981.

Inflation And Real Growth Raise Effective Tax Rates

This article was prepared by John W. Kendrick, Commerce Chief Economist, in collaboration with staff economist Theodore S. Torda.

John W. Kendrick

Personal taxes absorbed a larger share of personal income in 1976 than in 1975 and, unless current tax laws are changed, will take a greater share of income in 1977. This is so, despite the fact that most provisions of the Tax Reduction Act of 1975 continued in effect during 1976 and have been extended through 1977. A rising share of personal taxes tends to diminish the private sector's potential contribution to overall growth.

This phenomenon is recognized by policymakers. Tax relief is under consideration at present. Accordingly, it may be helpful to give a long-term perspective on the behavior of certain statistical measures of taxes and income, and to explain why average tax rates tend to become larger even if tax laws are unchanged.

The focus here, beginning with the early 1960s, is on three classifications of taxes: personal tax and nontax payments (mostly federal, state and local personal income taxes and certain payments convenient to treat as taxes), federal personal income taxes, and corporate income taxes. These aggregate tax measures are charted as shares of alternative broad income bases. For individuals, one income base is the conventional measure of personal income. This includes transfer payments, which have become increasingly important as a share of income. However, most transfer payments, such as social security benefits and unemployment compensation, are not taxable, and therefore a second income base—personal income less transfer payments—is used. For corporations, the income bases are profits before taxes (book profits) and profits from current production (operating profits).

In the national income accounts, personal tax and nontax payments are deducted from personal income to derive disposable personal income, which is income available for personal outlays or personal saving. Thus, the top panel of the chart indicates whether tax policy is becoming more or less conducive to personal consumption—as measured by a decline or a rise, respectively, in the tax share of income.

Over the long run, the rising trend in the personal tax and nontax payments ratio stems from new or increased personal taxes levied by state and local governments. By comparison, the essentially trendless federal personal income tax ratio reflects periodic Congressional tax legislation designed in part to offset the automatic tendency of federal receipts to rise faster than income. Inflation and real growth tend to raise nominal income and, in the absence of a change in tax laws, push taxpayers into higher personal income tax brackets—particularly at the federal level but also at some state and local government levels that have progressive tax systems.

Federal grants-in-aid, including general revenue sharing first introduced in late 1972, helped to retard the rise in state and local government taxes. Federal grants-in-aid accounted for almost one-fourth of state and local government revenue in 1976, compared with about 7 percent in 1963. If this had not occurred, taxes probably would be higher today at state and local government levels.

Short-run changes in personal income tax ratios largely reflect discretionary changes in federal income tax policy, and cyclical variations in income. For instance, the large tax reduction of 1964 caused a net decline of 1.5 percentage points in the ratio of federal personal income taxes to personal income less transfer payments—slightly larger than the net decline of 1.3 percentage points attributable to the Tax Reduction Act of 1975. The rise in tax ratios in the late 1960s was in part associated with federal income tax surcharges.

Tax ratios rose in 1972, despite increases in personal exemptions, standard deductions, and the low-income allowance. The rise was due largely to an extra $9 billion in overwithholding of federal personal income taxes, following a revision in the tax withholding system.

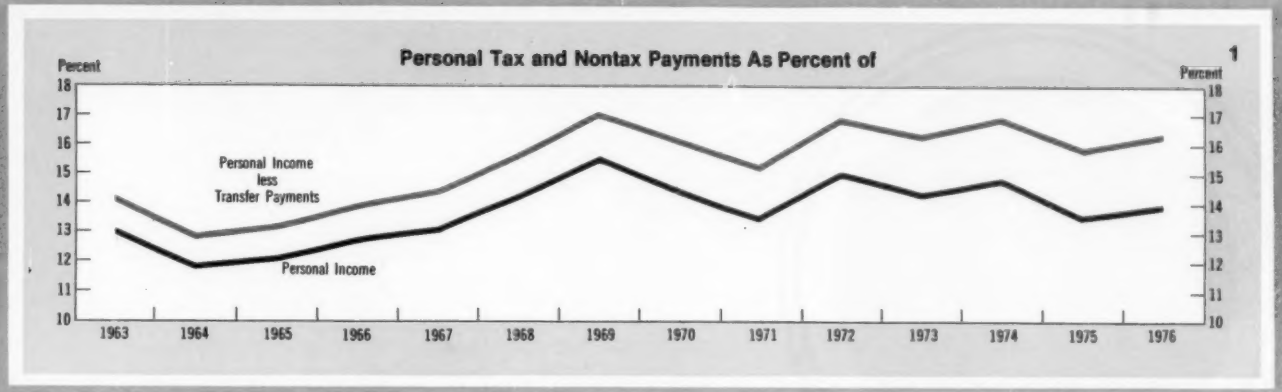
In 1974, consumer prices soared by 11 percent. Personal income less transfer payments rose by only 8.5 percent, which meant a decline in the average family's real income. Yet federal personal income taxes increased by 15.4 percent in 1974. The increased tax burden during a recession year set the stage for the tax reduction of 1975.

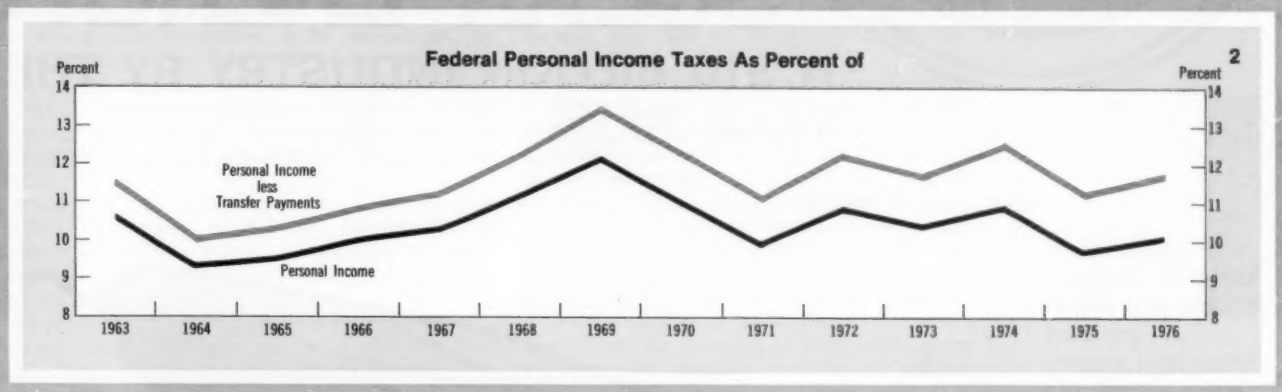
Tax ratios began to move up in 1976 and, under existing legislation, will rise further in 1977. The ratio of federal income taxes to personal income less transfer payments is estimated to rise in 1977 to the 1974 level, which would effectively offset the tax relief enacted in 1975.

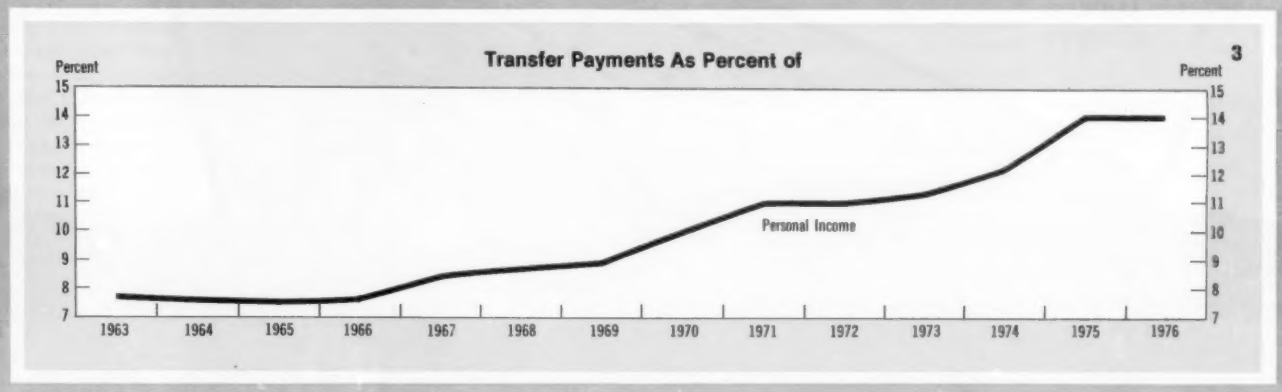
In the bottom panel of the chart, profits and taxes of the Federal Reserve System are excluded from corporate earnings and tax liabilities because almost all of the Fed's profits are automatically returned to the Treasury. The exclusion lowers the average corporate tax rate, based on either measure of profits noted earlier, by about 2 percentage points in recent years, but much less in the early 1960s.

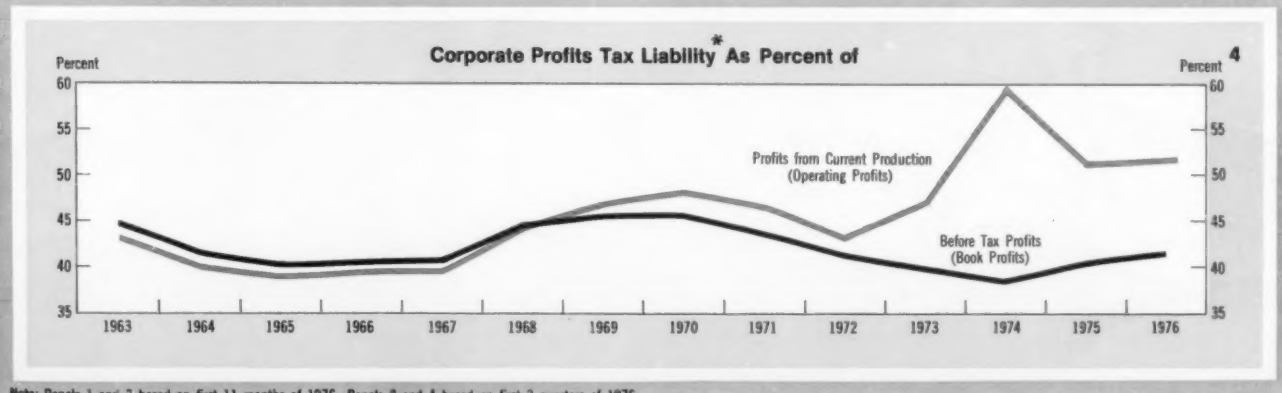
Corporations pay taxes on before-tax book profits. These profits are generally higher, and therefore the effective tax rate lower, than profits from current production—for several reasons. Book profits include inventory profits, which arise because inventories used in the production process tend to be valued by business at original rather than replacement costs. This is the basis for the inventory valuation adjustment (IVA). In addition, book profits reflect tax return-based depreciation, which tends to be lower than depreciation based on replacement costs. This is the basis for the capital consumption adjustment (CCA). To the extent that firms are required by law to understate "economic" depreciation, they overstate profits and pay higher taxes.

Book profits adjusted for the IVA and CCA yield profits from current production—the national income concept of profits. On this basis, the corporate tax ratio rose sharply (by 16 percentage points) from 1972 to 1974. Corporations also benefited from the Tax Reduction Act of 1975 and the tax ratio declined in that year. However, with a strong cyclical rebound in operating profits in 1976, the effective corporate tax rate began to move up once again and, except for 1974, was at the highest level in many years.


1
Personal Tax and Nontax Payments As Percent of
Percent
Personal Income less Transfer Payments
Personal Income
1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976


2
Federal Personal Income Taxes As Percent of
Percent
Personal Income less Transfer Payments
Personal Income
1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976

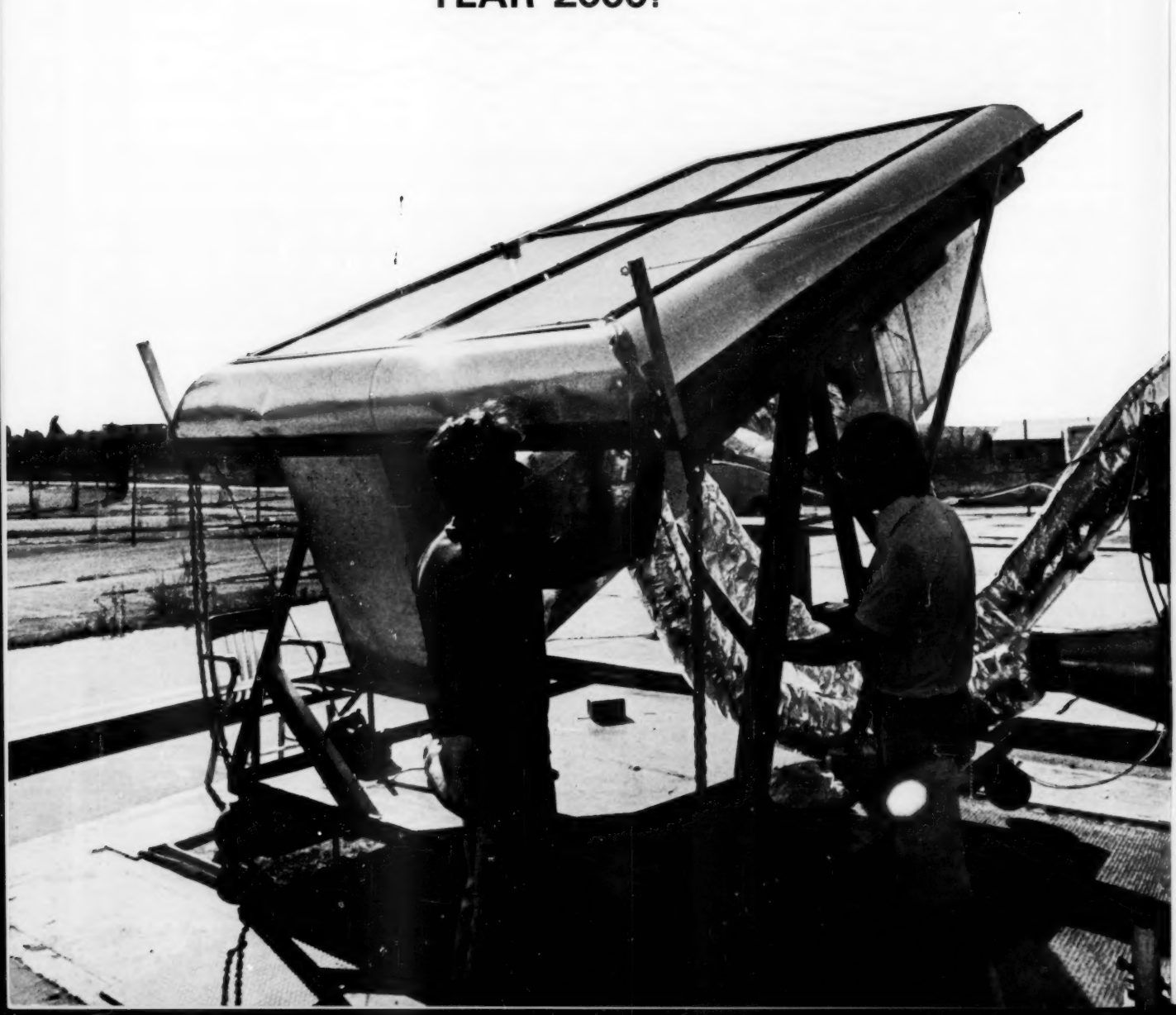



4
Corporate Profits Tax Liability* As Percent of
Percent
Profits from Current Production (Operating Profits)
Before Tax Profits (Book Profits)
1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976

Note: Panels 1 and 3 based on first 11 months of 1976. Panels 2 and 4 based on first 3 quarters of 1976.
* Excluding Federal Reserve System.

SOLAR ENERGY:

A $10 BILLION INDUSTRY BY THE YEAR 2000?



Solar energy could be a $10 billion industry providing 7 percent of the nation's energy requirements by the year 2000. That means the sun would heat 17 million or 15 percent of the nation's buildings by that time saving the equivalent of five million barrels of oil a day, according to Paul D. Maycock, Coordinator of Solar Energy Planning and Program Implementation for the Energy Research and Development Administration (ERDA).

While this may make only a minor dent in the nation's tremendous energy bill, it promises to make a major dent in the energy bills of homeowners and businesses using solar-produced heat and hot water.

Maycock says there is a good chance that advancing technology will make it possible by 1980 to construct solar collector systems for $10 a square foot, in 1980 dollars, as contrasted with the present cost of $20 or more a square foot in current dollars. If this hope materializes, and if Congress meanwhile should provide a tax incentive to encourage solar construction, the process of installing home solar systems would greatly accelerate.

The 1974 Solar Heating and Cooling Demonstration Act gave the Department of Housing and Urban Development (HUD), the responsibility for demonstrating the practicality of solar heat for homes, while ERDA was given responsibility for commercial and other projects.

Commerce's National Bureau of Standards is supporting HUD and ERDA in these programs by: defining the technical performance data to be collected during the residential and commercial demonstration programs; developing intermediate standards for domestic solar hot water and space heating systems that can be used in conjunction with HUD's Minimum Property Standards; and developing performance criteria for commercial buildings.

An economic analysis of solar water and space heating, recently prepared for ERDA by the Mitre Corp., shows that such systems, installed at a cost of $20 per square foot of collector, are competitive now against electric systems throughout most of the United States, and that if the system's cost were reduced to $15 per square foot, the solar systems would become competitive against oil and electric heat pump heating in many cities.

On this basis, a solar collector system of 10 by 35 feet, for example, would cost $7,000 at $20 per square foot or $5,250 at $15 per square foot.

The analysts selected 13 cities which are representative of the variations in climate and fuel costs across the United States. To calculate relative costs, solar heating and hot water systems were compared to conventional systems using natural gas, fuel oil, electricity or electric heat pumps. Solar cooling systems, which to date are much more expensive, were not considered.

Only new residential single family construction was considered, although the analysis would apply to retrofit applications where 8.5 percent financing was available and no additional costs were incurred as a result of the retrofitting. The terms of payment were assumed to be the same as those on the home mortgage, which in the case in question would be 8.5 percent over 30 years. No additional down payment was assumed to be required.

. . . economic analysis of solar water and space heating . . . shows that such systems . . . are competitive now against electric systems . . .

Assumptions as to the building were that it was a residence for a family of four, 1,500 square feet, brick veneer, asphalt roof, storm windows, 12 inches of attic insulation figured with a 15-mile-per-hour wind factor. The house was assumed to be relatively well insulated. For the purpose of estimating the tax savings due to additional interest paid in financing the solar system, a combined federal and state income tax of 30 percent was assumed. Since current trends have favored not charging property tax on the added value of the solar system, no incremental property tax was assumed for the system.

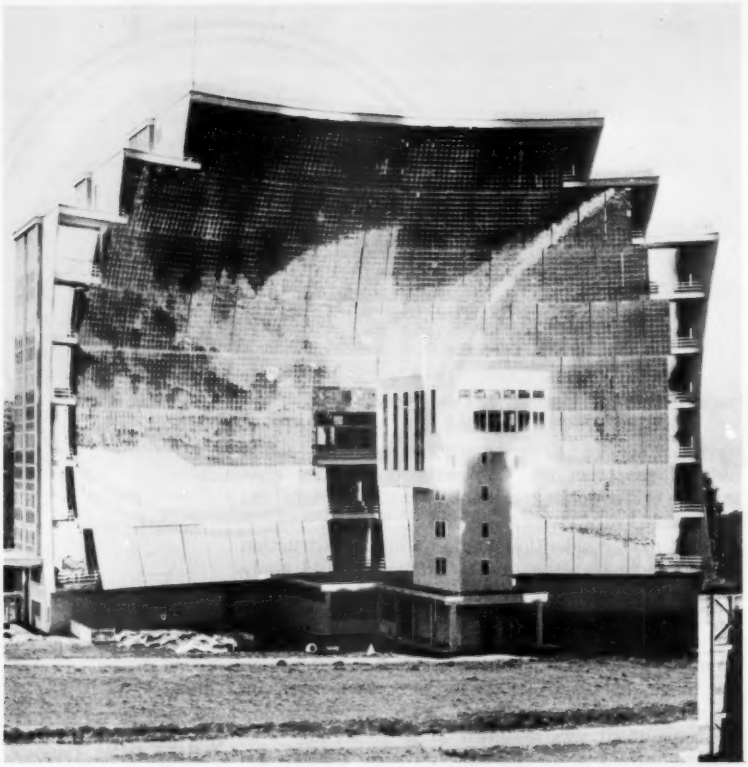
Annual operating and maintenance costs for the first year were assumed to be 2 percent of the initial cost. This would increase at the same rate as general inflation, which was assumed to be 6 percent a year. Fuel prices were assumed to escalate at a rate of 10 percent a year.

The analysis also assumes that a solar system would be economic if positive savings occurred in five years or payback occurred in 15 years or less.

This set of assumptions, of course, was adopted only because it was believed to reflect realistic situations. But those using the assumptions point out that they are merely illustrative and are not absolute for all time.

Based on a cost of $20 per square foot for solar collectors installed, under these standards the solar system would be competitive for hot water and heat against electricity in 12 of the 13 cities. The cities were: Atlanta; Bismarck, N.D.; Boston; Charleston, S.C.; Columbia, Mo.; Dallas-Ft. Worth; Grand Junction, Colo.; Los Angeles; Madison, Wis.; Miami, New York, and Washington, D.C. Only Seattle, where electricity costs less than a penny a kilowatt hour, would solar not be competitive.

Based on a cost of $15 per square foot for solar collectors, the solar systems would be competitive



Energy Research and Development Administration used this solar furnace in the French Pyrenees Mountains to test the first prototype boiler which is to be installed in a solar electric generating plant in the U.S. in 1980. Half as large as a football field, this French furnace creates temperatures of 6,000 degrees F.

Solar panels power a water purification unit at Fort Belvoir, Va., where the U.S. Army Mobility Equipment Research and Development Command is demonstrating potential military applications of photovoltaic systems.

for hot water and heating against the electric heat pump in five of the cities: Bismarck, Grand Junction, Los Angeles, Madison, and New York. They would be competitive for hot water and heating against oil in six of the cities: Atlanta, Bismarck, Charleston, Grand Junction, Los Angeles, and Miami.

Finally, if the cost should be reduced to $10 per square foot in 1980 dollars, solar hot water and heat would be competitive against electricity and the heat pump everywhere except Seattle, against oil in all 13 cities, and against gas in nine of the cities, in fact, against all except Bismarck, Charleston, Columbia, and Madison.

In figuring positive savings and payback, the analysis used the following standards:

Positive savings are defined as the year in which the solar system first becomes profitable; that is, the year that the annual conventional fuel bill without solar exceeds the annual fuel bill with solar plus the annual cost of the solar system.

The annual cost for the solar system would include maintenance, interest on the mortgage relating to the solar system, and the annual amortization of the mortgage, less the income tax saving resulting from deduction of interest on the mortgage.

Payback is defined as the year in which the compounded net saving equals the remaining principal on the mortgage for the solar system. Net savings are computed on the basis of the fuel cost of the conventional backup system.

Based on a cost of $20 per square foot for solar collectors, installed, this would work out in the following way in competition with electricity for 12 of the 13 cities in the analysis, omitting only Seattle:

One year to positive savings: Charleston, Grand Junction, Los Angeles, Miami, and New York; three years: Atlanta, Boston, Columbia, Dallas-Ft. Worth and Madison; four years: Bismarck and Washington.

Years to payback: Miami, 9; Los Angeles, 10; Charleston, 11; Grand Junction and New York, 12; Dallas-Ft. Worth, 13; and Atlanta, Bismarck, Boston, Columbia, Madison and Washington, 14.

In competition with heat pump:

Years to positive savings: Grand Junction, 6; Bismarck and Los Angeles, 7; and Miami, 8.

Years to payback: Grand Junction, 17; Bismarck and Los Angeles, 19; and Miami, 20.

In competition with oil:

Years to positive savings: Grand Junction, 6; Bismarck, Charleston, Los Angeles and Miami, 7.

Years to payback: Grand Junction, 17; Bismarck, 18; and Charleston, Los Angeles and Miami, 19.

Based on a cost of $10 per square foot, in 1980 dollars, for solar collectors installed, only one year is required to achieve positive savings in competition with electricity for solar hot water and heat in all cities except Seattle. The years to payback range from 4 for Miami to 9 for Atlanta, Boston, and Washington.

In competition with heat pump:

Years to positive savings: Bismarck, Charleston, Grand Junction, Los Angeles, Madison, Miami, and New York, 1; Atlanta, Boston, 2; Columbia, Dallas-Ft. Worth, and Washington, 3.

Years to payback: Miami, 9; Grand Junction and Los Angeles, 10; Bismarck and Madison, 11; Charleston and New York, 12; Atlanta, Boston, and Columbia, 13; Dallas-Ft. Worth and Washington, 14.

In competition with oil:

Years to positive savings: Atlanta, Bismarck, Charleston, Grand Junction, Los Angeles, and Miami, 1; Columbia, Dallas-Ft. Worth, and Madison, 2; Boston, New York, Seattle, and Washington, 3.

Years to payback: Miami, 9; Grand Junction and Los Angeles, 10; Atlanta, Bismarck, and Charles-

ton, 11; Dallas-Ft. Worth, 12; Columbia, Madison, Seattle and Washington, 13; and Boston and New York, 14.

In competition with gas:

Years to positive savings: New York, 2; Dallas-Ft. Worth, 3; Boston, Los Angeles and Miami, 4; Grand Junction and Washington, 5; Charleston, 6; and Bismarck and Madison, 7.

Years to payback: New York and Dallas-Ft. Worth, 13; Boston, 14; Los Angeles, Miami and Washington, 15; Grand Junction, 16; Charleston, 17; Madison, 18; and Bismarck, 19.

From these figures, it will be seen that, based on the assumptions in the analysis, solar energy for heat and hot water on the basis of $10 per square foot in 1980 dollars for collectors is in competition even with gas in six of the nation's large cities.

HUD has authorized grants totaling nearly $5 million to more than 150 builders and other project sponsors to install solar heating and cooling equipment in more than 1,550 housing units scattered throughout the country. Additional grants are to be made.

The purpose of the projects is to help people become acquainted with solar energy in homes. The experience gained from the projects is expected to be useful in developing information on systems and market practices that will encourage the further use of solar energy equipment and reduce the nation's dependence on fossil fuels.

Grants are awarded to applicants on the basis of a number of factors, including the type of solar system to be used, the status of the housing project, and the usefulness of the project to HUD's demonstration program. Solar equipment is provided for heating and hot water, and to some degree for cooling, and is installed in both single family and multi-family projects.

Awards are made only to builders and developers who market the homes after they are completed. Funding is not considered for pre-sold units or for individuals for their private homes. Likewise, grants are made to builders who will use the projects as sales models, to public housing authorities for testing alternate ways of reducing operating costs, and to community groups active in housing.

Applicants are expected to have already arranged financing, secured land and escalated and completed the basic engineering design for their solar system.

More than a dozen federal agencies, including ERDA and the National Science Foundation (NSF), have authorized multiple millions of dollars for well over 200 solar projects involving a wide variety of facilities ranging from fire houses and shopping centers to hospitals. Solar energy is now providing, or will in the future, a large percentage of the heating and cooling for many of these projects. It is part of an escalating trend in which solar projects are mushrooming in all parts of the country.

The extraordinary reach of American inventiveness is shown in the range of solar projects that are emerging.

The extraordinary reach of American inventiveness is shown in the range of solar projects that are emerging. Nine sites have been proposed for the world's first solar electric power plant, scheduled for completion in 1980. The plant will produce 10,000 kilowatts of electric power under optimum, full-sunlight conditions, approximately the power required by a city of 10,000.

Solar projects are under way to pump irrigation water from deep wells in New Mexico and Arizona to determine the technical feasibility of solar energy for this purpose. More fanciful ventures are in the offing, such as greenhouses that double as solar energy collectors, so that a person may grow vegetables and bananas year-round while cutting down on his fuel bill.

Solar energy has two unique advantages: it is inexhaustible and free.

Commerce's National Technical Information Service is the central source for the public sale of government-sponsored research, development and engineering reports and other analyses prepared by federal agencies, their contractors or their grantees. The NTIS information collection exceeds 900,000 titles. About 105,000 are in current shelf stock; the rest are reproduced on demand.

In order to inform interested persons of titles available on a given subject, NTIS publishes NTISearches, which are bibliographies developed from NTIS' data base or from the Engineering Index, Inc. data base. The Engineering Index data base includes bibliographic citations from worldwide professional and industrial journals as well as the proceedings, transactions and special publications of engineering societies, associations, universities and research institutions.

Customized On-Line Searches are conducted in response to a specific request, and begin at $100, with cost dependent on the number of reports listed. Published Searches have been prepared by NTIS in subject areas in demand, and are available in paper copy or microfiche at a cost of $25 each.

The following Published Searches are available on the subject of domestic solar energy use:

Solar air conditioning and space heating (NTIS/PS-75/689/0CZ);

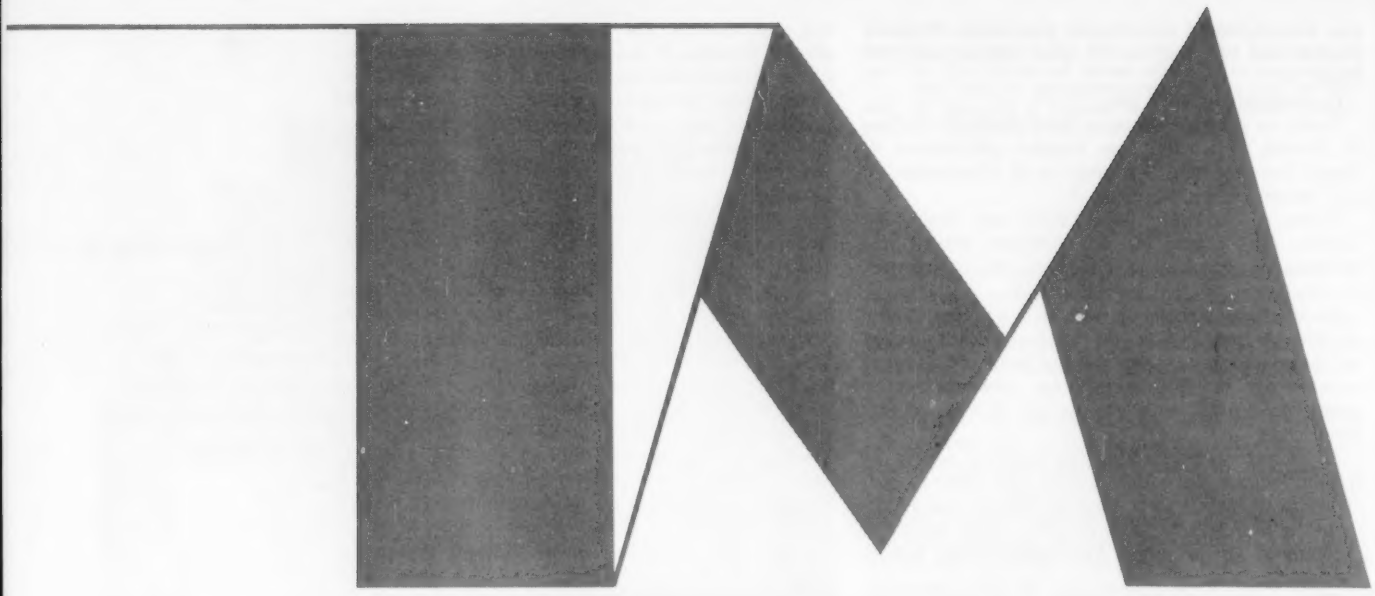
Solar collectors and concentrators (NTIS/PS-76/0393/9CZ); same subjects, from the Engineering Index data base (NTIS/PS-76/0394/7CZ);

Solar collectors. Optical coatings (NTIS/PS-75/692/4CZ); and

Solar power generation (NTIS/PS-75/691/6CZ).

Reports on solar energy that have proven best sellers include: a *Solar Energy Bibliography* (TID3351) priced at $10.60 for paper copy; *Evaluation of Home Solar Heating System* (UCRL 51711) $7.60; *Solar Energy Evaluation Group Report* (ANL8045) $4.00; and *Solar Heating and Cooling in Buildings: Methods of Economic Evaluation* (COM7511070) $3.75. All of the above are priced at $2.25 for microfiche.

Another publication on the subject is *Solar Energy Update,* published monthly by the Energy Research and Development Administration. (NTIS/UB/C/145). Twelve issues, $27.50; single issue, $3.25.



Management Finds A New Technique To Increase Productivity

Business, industry and government are looking increasingly to a new management technique called Transcendental Meditation (TM) as a means for increasing productivity and some significant results are already being reported. At the moment, Blue Cross-Blue Shield, General Motors, AT&T, Connecticut General Corporation, and the U.S. Army are but a few of the organizations investigating this technique.

In the past six years, the number of Americans practicing the TM technique has increased from 50,000 to more than one million. During the same period, more than 200 scientific studies have validated the benefits of the TM program to health, physical and mental performance, productivity and general well-being.

Courses in the program are available from the American Foundation for the Science of Creative Intelligence (AFSCI), a nonprofit, educational organization. As its vice president for government programs, Stephen F. Beck, explains: "We have technologies today for just about everything, for putting men on the moon, for printing micro-circuits, for agriculture and for a myriad of society's functions. What has been missing until now is a technology for developing the full potential of the human mind. It has been said that the greatest underdeveloped resource in the world today is human intelligence. More than 50 years ago, William James concluded that man is using about 5 percent of his mental potential; the optimists among contemporary researchers give figures that range up to 10 percent. So at best, 90 percent of human potential is undeveloped.

. . . the average individual today is confronted with more sensory input in a month than a person a hundred years ago experienced in a lifetime.

"A factory or other industrial activity at only 10 percent of its capacity would be considered very unproductive and action would be taken to change its operation. But when we are told that our personnel are performing with such limited use of resources, we don't know what to do. The TM program provides an answer," he points out.

The rapid rate of technological development and the accelerating pace of life generate a tremendous amount of stress and tension in society. The frequent elicitation of the "flight or fight response" without a specific need is an example of how stress can activate the system in such a way as to produce negative effects. Hypertension, ulcers and a variety of other diseases have all been related to stressful occupations. Research has shown that life expectancy is reduced by prolonged exposure to highly stressful environments. A decline in executive productivity due to stress overloads is difficult to measure but many industrial psychologists think the economic loss to business is significant.

Stress and tension are two by-products of advanced technology that seem to place a limit upon how much activity and responsibility a person can successfully handle. It has been estimated that the average individual today is confronted with more sensory input in a month than a person a hundred years ago experienced in a lifetime. The tremendous increase in the amount of information, sometimes called the "information explosion," and the fast pace of change place increasing demands upon today's manager. Proponents of the Transcendental Meditation program state that, if

the negative effects of stress can be reduced, then a manager will be more adept at keeping pace with change and will be more capable of making a positive contribution to progress.

John Burns, a Washington, D.C., management consultant, says "Whatever management system an organization uses, it will be more effective if the people using it are operating with more of their intellectual and creative abilities. There are many good systems designed to eliminate organizational problems, but it is the creativity of the manager and his ability to use a system that is the critical factor. Friction and stress and lack of achievement of organizational goals are directly traceable to stress, tension, and poor performance in the individual. To increase the rate of progress requires that the negative effects of stress and tension be minimized. At the same time more of the individual's creative and intellectual potential must be unlocked. The TM technique accomplishes both of these objectives."

The Transcendental Meditation technique is defined as a "simple, natural and effortless procedure that allows the mind to experience a more relaxed and refined style of functioning." As the mind settles down during the TM technique, studies have shown that the body experiences a profound relaxation which appears to have a beneficial effect on the entire nervous system. Numerous scientific studies have shown that people using the technique have faster reaction time, better eye-hand coordination, increased resistance to infection, less hypertension, improved memory and increased learning ability.

TM teachers insist the technique is completely effortless, both to learn and to practice. One frequent injunction: trying is prohibited because any effort injected into the process will only interfere with its naturalness, like trying to fall asleep. The TM technique is practiced twice a day, once in the morning to dissolve any fatigue or stress that may remain after the night's sleep, and to gain energy for the day's activities, and again in the afternoon to eliminate the stressful effects of the day's work and to increase energy for enjoying the evening's activities.

During the TM technique a person rests deeply but is not in a trance. In fact, the individual is more alert than at any other time of the day. The technique involves no suggestion and is completely unlike hypnosis. No changes in lifestyle, diet, or philosophy are required to practice the technique.

Managers using the Transcendental Meditation technique state that it provides a level of rest that dissolves the accumulated tension and stress that sleep is unable to release. "The decline in energy experienced at the end of a long day has two components," says Bob Kory, AFSCI vice president for expansion. "One is the physical aspect of fatigue, the other is the mental component, stress.

Scientific research indicates that during the practice of the TM technique the individual gains a deeper state of rest than in deep sleep. Physiologist R. K. Wallace reports that oxygen consumption, a measure of metabolic activity, drops 16-18 percent during the practice of the TM technique as compared with only an 8-11 percent drop during the deepest part of sleep. This deep level of rest allows accumulated stress and fatigue which may have built up over months and years to be systematically eliminated. As a result, the indivdual has increased energy and experiences less strain and stress while taking on more activity at work and at home. Many people report that they need less sleep as a result of practicing the technique. This is a boon to the executive whose time has become increasingly precious.

Along with deep rest the Transcendental Meditation technique also seems to increase the orderliness of brain functioning. Studies with the electroencephalograph or EEG (a device for measuring the brain's electrical activity) have shown that the normally random and disorganized activity of the different areas of the brain tends to become more orderly and synchronous during the TM technique.

While early research on the TM program has emphasized the physiological and psychological effects of the program, more recent studies have looked into its impact on the performance of individuals in organizational settings. A carefully controlled study was designed by Professor David R. Frew, Director of the Graduate School of Business at Gannon College, Erie, Pennsylvania, to measure the effects of the TM program on productivity and job satisfaction. Over 600 meditators and non-meditators, in a cross section of occupations, participated in the studies.

Dr. Frew found that while a vast majority of meditators report an increase in physical energy, a propensity for getting work done, and heightened creativity, the result could be a desire to accomplish personal goals at the expense of corporate goals. Thus, Dr. Frew's research question was "What is the effect of the TM technique on the primary work organization of the meditator? Does it make him a better, more productive worker, or does it present a very basic ideological conflict?"

The technique involves no suggestion and is completely unlike hypnosis.

The research subjects were asked to rate themselves over a period of time on dimensions of productivity such as job satisfaction, performance, turnover, aspiration level, and quality of interpersonal relationships. Each subject was also cross-rated by his supervisor. The results of his study show that:

- Meditators show increases in job satisfaction, a decreased desire to change jobs, better performance, and better relationships with supervisors and co-workers.
- The farther up the organizational ladder the executives are and the more democratic the organization, the greater the impact of the TM technique upon productivity.

The study concludes that if the TM technique relieves stress at an equal rate for all people, then the people who experience the greatest benefit must be the people undergoing the greatest stress—in short, managers.

Roy Morter, Director of Personnel at GM's Lordstown, Ohio, Assembly Plant, states: "In the 12 months that the study ran, there have been no days lost due to personal illness among those using the TM technique. The usual rate is about 5 percent, so we feel that the program shows much promise in terms of cost benefits. It appears that for management personnel, the TM technique definitely points to the direction of greater energy, increased clarity, better organizational ability, as well as improved health," he said.

When asked if the TM program might produce less ambitious managers less likely to succeed in a highly competitive setting, Morter said, "On the contrary, a significant number of those who took the AFSCI management course have been offered promotions or have been promoted."

Other results of the study were seen in more than half of the subjects' giving up or decreasing their use of alcohol and cigarettes. Over a third of the individuals in the program feel that they now require less sleep and one half of the group said that they fall asleep faster. A majority of those who took part in the program state that they have increased self-confidence in their decision-making and 53 percent reported that their organizational ability has improved as a result of the program.

... more recent studies have looked into its impact on the performance of individuals in organizational settings.

Regarding his personal involvement in the TM program, Morter said, "I am personally sold. I can get through 12 and 14 hour days, and try to bring about some constructive changes in the way we are doing things, and still manage to keep cool during the day and have energy for enjoying life at home. I feel confident that we will see a continued expansion of TM activity at GM."

E. R. Polk, chairman of the PA Medical Corporation, near Nashville, Tennessee, reports more than half of his administrative staff practices the TM program. As a result, Polk says, "I have noticed that employees, after beginning the TM program, interact more harmoniously among themselves. This is especially true of the interaction between workers and supervisors."

With regard to actual plant operations, Polk continues, "A case of dramatic improvement has been seen in the area of absenteeism. Our average percentage of absenteeism has been 15 percent daily, but among the TM practitioners, it has been less than 1 percent. This improvement alone has enabled the company to show greater profit and productivity."

Gordon T. Beaham III, President of Faultless Starch/Bon Ami Company, reports that "Out of 24 executives and staff in our executive office, 16 have begun the TM program. I feel that the overall atmosphere of the office has improved as a result of this large number of TM meditators. The TM technique reduces stress, improves interpersonal relationships and develops creativity. Communications in the office seem better and more open. I might add that we have encouraged the TM program here in order to keep our health insurance rates from rising as they did rather precipitously a year ago. We expect the TM program to pay for itself in saved premiums in future years."

Stanley Eisenberg, president of a Brooklyn-based dairy company called Sunnydale Farms, began the TM program three years ago. Last year he offered TM courses to some of his employees. After six months he concludes:

"I think it's the best investment we've made in our personnel. It has helped them become more productive, more levelheaded and better able to cope with pressure. If you compare the cost-benefit of the TM program to all the other fringe benefits we offer our employees, the TM program is by far the best investment for the company and the most helpful for the individuals who work here."

In a recent Defense Department research paper, Edward E. Winchester, looked at the effects of the TM technique and analyzed its application to management systems and problem solving. He finds that the two primary components of decision-making are the intellectual faculty and the creative or intuitive abilities. The quality and quantity of problem solving output is directly related to the available input of creative and analytic thinking. Using the tools of financial analysis, he suggests the existence of an "awareness baseline" with which a manager confronts problems. If a sufficient quantity of intellect or intuition is not available to the manager, then the number of problems the executive manager can successfully deal with will be limited.

Winchester points out that studies have shown that the TM technique not only increases balance of mental abilities, but that it actually increases the energy available for both analytic and creative thinking, thus raising the "awareness baseline" to a point at which problems of increasing number and complexity can be solved.

Several other government departments and agencies are also considering the potential of the TM program for improving the performance of their personnel. Joseph N. Coffee, Associate Director of the General Management Training Center at the Civil Service Commission, who has conducted an evaluation of the Transcendental Meditation program says, "I was rather skeptical of what I would get out of the course. I had difficulty seeing how it could accomplish all that is claimed. Also I doubted whether or not I would be willing to put in the time to meditate, especially in the morning. However I found the experience very rewarding and I had no problem learning to meditate. Now I look forward to meditating, even in the morning. Before TM, I would come home from work quite drained and unwilling or unable to do much of anything constructive. Now, I come home, meditate for 20 minutes and then undertake all kinds of constructive activities. In essence the TM technique seems to revitalize me at that particular time of day. As I have been able to overcome lack of sleep and increase my energy, I seem to be able to concentrate more. Most noticeable is my ability to increase my concentration in the evening."

Dr. Louis Werner, Assistant Director, Division of Geothermal Energy at the Energy Research and Development Administration, says he has "found the long-term value of the TM technique to have a significant effect on the decision-making process. Answers to complex problems now come spontaneously to mind with little effort. In light of the fact that the benefits of the technique are cumulative, I look forward to increasing performance in this area."

Whether or not the TM technique is the missing technology that will enable American business to reduce personnel problems and dramatically increase productivity remains to be seen. But while the number of companies offering the TM program to their employees is as yet limited, the number is growing rapidly, and those already using it claim an impressive list of benefits both to the company and the individual employee.

Additional information is available from the AFSCI Management Training Institute, 2127 Leroy Place NW., Washington, D.C. 20008.

Energy Digest

A SWITCH IN TIME . . . An ultrasonic control system that reportedly can turn electric lights and other appliances on and off as people enter or leave rooms is being readied for commercial introduction. Depending on prevailing utility rates and energy demand, the system could pay for its installation in as little as one year, according to its developers, MRCA Inc. of Leonia, N.J. Called Energy Activation Systems Equipment (EASE), the system was designed primarily for large users of electric power for lighting, such as office buildings, hotels, museums, government buildings, and warehouses. EASE's principle of operation is based on the potential disturbance of a field of inaudible ultrasonic sound waves which fill a monitored area. Motion of a person in the area is detected by the system's sensor. This motion causes switching to take place, thereby turning the lights or other devices on instantly. When the motion ceases as the area is vacated, the system turns the lights off. It can also be used to control television sets, heating and cooling systems and other electrically-controlled apparatus.

READIN' WRITIN' AND RADIATION . . . Surveys of participation in the nation's educational programs in nuclear engineering and radiation protection are summarized in two recently-issued ERDA reports. Entitled Nuclear Engineering Enrollment and Degree and Degree Survey (ERDA 76-102) and Radiation Protection Enrollment and Degree Survey (ERDA 76-101), each is the fifth in a series of annually-issued reports. They provide comprehensive lists of schools offering degrees in nuclear engineering and radiation protection. The continuing nature of these surveys makes the information especially useful to persons involved in industry program or manpower planning activities. Each report is available for $4.50 from the National Technical Infor. Service, U.S. Department of Commerce, 5285 Port Royal Rd., Springfield, Va. 22161.

DRY RUN FOR DRY-UP . . . A recent six-week dry-run tested the ability of western oil companies in the 19 member nations of the International Energy Agency to respond to another disruption of world oil supplies. Headquartered in Paris, the IEA includes the United States and 18 other of the world's largest oil-consuming nations. It aims to reduce members' vulnerability to oil supply interruptions through emergency allocation planning, increasing oil stockpiles, and the encouragement of energy conservation measures. In this area, IEA has drawn up the first international plan to distribute world oil supplies equitably in any future supply interruption. Its Emergency Manual details steps to be followed by members in such an emergency, and outlines the world oil-sharing formula. A simulated oil interruption, to test this program, began October 4 and ran for six weeks. The test involved 31 international oil companies that account for approximately 85 percent of the western world's oil trade.

PRECISE MEASUREMENT . . . A unique gasoline metering system in which attendants dial customers' requested dollar amounts is being introduced throughout the northeastern states by The Sperry and Hutchinson Company. The firm reports that the telephone-sized pump attachment has been tested successfully on more than 2,500 gasoline dispensers in service stations of most major oil companies and independents in six northeastern states. The first such control system of its kinds in the country, according to Sperry & Hutchinson, the "Dialamatic" system regulates partial fill-ups by shutting off gasoline flow at pre-set dollar amounts. More than half of all sales requests are for partial fill-ups, which mean the pump must be tended constantly. Window-washing, oil checks and other services are postponed or ignored, since the attendant risks a costly overrun if he leaves the pump.

LITTLE RADIATION HAZARD . . . A Nuclear Regulatory Commission study has concluded that there is little increase in radiation exposure for flight attendants from shipments of radioactive materials, and that such exposures are well below the recommended limits for individuals in the general public. Most of the radioactive materials shipped each year by passenger aircraft are for medical diagnostic and therapeutic purposes. An average of about one domestic flight in thirty carries some radioactive materials. Air transportation is considered the only viable method of shipping the short-lived medical radiopharmaceuticals.

WHEN IN DOUBT, TURN IT OUT . . . Turn off that decorative outdoor gas lamp unless it's essential for safety, says the FEA. It will save about $27 a year in natural gas costs, and help conserve a precious, non-renewable energy resource. A whole house can be heated with the amount of natural gas it takes to keep six or seven gas lamps lighted.

Domestic Business Report

Steel, Autos To Pace 1977 Industrial Growth

Commerce's specialists see another good, but not spectacular, year for U.S. industries in 1977.

The economy is expected to show a real growth rate of 5 percent, compared to 6 percent last year and a 3.8 percent average for the years 1947-73.

Real personal consumption expenditures are projected to rise in 1977 a little less than in 1976, which would represent a continuation of the less ebullient trend which has characterized the economy since the first quarter of 1976.

More than 100 industry specialists have assessed the 1977 prospects for over 200 of this country's industries in the recently-published *U.S. Industrial Outlook,* put out annually by Commerce's Office of Business Research and Analysis.

About 85 percent of the total value of this country's manufacturing shipments are covered in the current issue. New sections this year cover flat glass, lead, motorcycles, bicycles, air pollution control equipment, industrial heating equipment, and lawn and garden machinery.

They expect the value of shipments to rise by more than 10 percent for 72 of the 186 manufacturing industries surveyed, and that 148 of the 186 will show shipment gains exceeding 5 percent.

Basics look strong

Two bellwether industries, steel and automotive, are expected to be among the fastest growers, with product shipment gains of 27 and 21 percent, respectively. Another industry with significant economic impact, truck and bus chassis, is expected to ship 33 percent more this year.

Anticipated gains for other major industries include: aluminum, 20 percent; foundries, 20 percent; paper and paperboard, 17 percent; plastics and plastic products, 15 percent; computers and related equipment, 14 percent; industrial organic chemicals, 13 percent; commercial printing, 11 percent; drugs, 9 percent; electronics components, 8 percent; meatpacking plants, 7 percent; construction machinery, 4 percent, and aircraft, 3 percent.

Only four manufacturing industries are expected to have shipments valued at less than their 1976 levels.

As to the non-manufacturing industries, all of the 41 surveyed are expected to have sales increases in 1977, led by hardware and cable television with gains of 14 percent. The non-manufacturing industries with the heaviest economic impact are expected to make the following gains: health and medical services, 13 percent; construction, 11 percent; educational services, 8 percent; commercial banking, 7 percent, and grocery stores, 6 percent.

The petroleum and natural gas industries are omitted to avoid duplicating the work of the Federal Energy Administration, where data collection on these critical sectors is centralized. Similarly, the U.S. Department of Agriculture is the center for information on the food industry, although some aspects of it, such as food retailing, are covered in the Outlook.

Special coverage

Some issues are significant enough, and have broad enough impact, to warrant special coverage. The use of fluorocarbon as a propellant is one such issue. Restraints on its use would have potential impact in the chemical, cosmetic, retailing, container, air-conditioning and refrigeration industries. The situation is discussed in detail in the chapter on chemicals and allied products.

Prospects call for significantly less stimulus to real growth from consumer outlays for motor vehicles and parts, but stepped-up buying of other consumer durables and about the same rate of expansion in nondurable goods and services.

Mixed patterns appear to be emerging within the broadly-defined investment sector. The physical volume of residential construction is projected to increase considerably less this year than last. Much of the 1977 rise is likely to be concentrated in multifamily units, which have been recovering but are still well below the record level of 1972. Single-family homebuilding has rebounded almost to its previous high, and relatively little further progress is expected in the near term.

In contrast to residential construction, a strengthening in the recovery of real outlays for business fixed investment is projected for 1977. This should help compensate for slower growth in other components of investment. Inventory investment is unlikely to add significantly to growth in real GNP in 1977, after having contributed a very healthy one-third of the increase in total output between 1975 and 1976.

Trade deficit

Net exports of goods and services, after adjustment for price changes, are expected to remain close to the level recorded in 1976, and thus would be a neutral factor in the growth of real GNP. The merchandise trade balance reverted to a substantial deficit last year, reflecting a greater increase in imports than exports, which in turn stemmed from a stronger economic recovery in the United States than abroad. However, a large increase in services more than offset the merchandise trade deficit, so net exports of goods and services were positive.

The merchandise trade balance may show a continued deficit in 1977, especially in view of higher prices on petroleum imports and a probable decrease in agricultural exports.

Government purchases of goods and services, in real terms, are projected to rise more rapidly than in 1976, helping to compensate for slower growth expected in the private sector. A large increase in federal grants-in-aid, coupled with the revenue sharing program, should enable state and local governments to increase their real purchases faster than in 1976.

Given the broad patterns projected for the major sectors of the economy, growth in total output should further reduce the unemployment rate—to an average of approximately 7 percent for the year as a whole.

The rise in consumer prices is projected to remain close to last year's gain of less than 6 percent.

The 525-page *U.S. Industrial Outlook: 1977,* is available at $5.85 per copy from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 and many Commerce Department district offices.

U.S. BUSINESS FORESEES 11 PERCENT INCREASE IN '77 CAPITAL SPENDING

U.S. business expects to spend $135 billion for new plants and equipment in 1977, or 11.3 percent above 1976, according to Commerce's Bureau of Economic Analysis.

The estimate of 1976 spending reported last month was $121.2 billion, 7½ percent above 1975. These capital spending figures are not adjusted for price changes. Preliminary data indicate that inflation in the area of fixed non-residential investment seems to have been about 5 percent in 1976, suggesting a real increase in investment of about 3 percent last year.

If capital goods prices rise at the same rate in 1977, the survey results imply a 6-percent increase in real investment. Survey respondents estimated the price increase for capital goods purchased in 1976 at 8 percent, and they expect a similar increase in 1977. Little is known about how respondents estimate price changes. In most recent years their estimates have been higher than final tabulations showed.

Manufacturing industries project spending at $59.6 billion, an increase of 12½ percent. Non-manufacturing industries project $75.4 billion, a 10½ percent increase.

All of the major manufacturing industries project higher spending this year. The largest increases are in motor vehicles (38 percent), rubber (27 percent), "other nondurables" (21 percent), and paper (16 percent). Increases of more than 10 percent are projected by the aircraft, machinery, textile, petroleum, and "other durables" industries.

In nonmanufacturing, large spending increases are planned by air transportation (26 percent) and gas utilities (17 percent). Other industries planning sizable increases include electric utilities (14 percent), mining (11 percent), railroads (10 percent), and communications (11 percent).

A 29-percent drop is planned by "other transportation," primarily reflecting reduced spending this year for the Trans-Alaska pipeline.

Coverage of report

This summary of plant and equipment expenditures is based on estimates for nonagricultural industry groups. The basic data are derived from reports submitted by a large sample of companies, unincorporated as well as corporate, to the Bureau of Economic Analysis.

The estimates presented are universe totals of expenditures for new plant and equipment in the United States based on the same data. They are compiled from reports on a company basis and not from separate reports for plants or establishments. A company's capital expenditures are assigned to a single industry in accordance with the industry classification of the company's principal products.

The 1977 figures are adjusted for systematic biases. The adjustments, computed separately for each major industry, were applied only when expected spending deviated in the same direction from actual spending in at least five of the last seven years. It consisted of taking the median deviation between expected and actual spending in that industry over the last five years.

Additional details appear in the January issue of the *Survey of Current Business*, published monthly by the Bureau of Economic Analysis. The *Survey* is available from most District Offices of the Department of Commerce, or from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, at an annual subscription price of $48.30, including weekly supplements.

Fee Schedule Proposed For Foreigners Fishing Within 200-Mile Zone

The merry jingle of cash registers may soon be heard above the roar of the bounding main.

A schedule of fees to be paid by foreign vessels and foreign nations fishing within 200 nautical miles of the U.S. coasts has been proposed by Commerce's National Oceanic and Atmospheric Administration (NOAA).

Such fees are provided by the Fishery Conservation and Management Act of 1976, which extended U.S. fisheries jurisdiction to the 200-nautical-mile limit.

The proposed schedule provides that each foreign vessel be charged a fixed annual access fee of $1 per gross registered ton, not to exceed $5,000 per vessel. In addition, each foreign nation with fishing vessels in the zone will be charged a fee of 3.5 percent of the total dockside value of the pounds of fish allocated to the nation. The value will be determined by the price received by U.S. fishermen for the species in the United States; if there is no U.S. market, an average foreign dockside price will be used.

NOAA's National Marine Fisheries Service estimates that about 1,400 foreign fishing vessels with an average size of 1,400 gross tons are expected to apply for fishing privileges off the United States. They are expected to be permitted to catch about two million metric tons of fish, with a dockside value of about $553 million, in 1977.

Revenue from the fees would thus amount to about $2 million from the access fees and about $19 million from the dockside value fees. In addition, up to $750,000 may be collected from the foreign vessels for the cost of U.S. observers on 20 percent of the vessels.

NMFS estimates that about $70 million of the total $92 million required to manage the zone would be needed even if foreign fishing were totally excluded from the zone, despite the fact that foreigners are expected to take 60 percent of the total catch.

The Fishery Conservation and Management Act of 1976, which takes effect March 1, requires that fees charged to foreign nations and vessels be reasonable and apply equally to each foreign nation. The fees may take into account the cost of administering the Act with respect to foreign fishing and may include, but not be limited to, the cost of fishery conservation and management, fishrey research, administration, and enforcement.

216.5 MILLION AMERICANS GREETED 1977; POPULATION GROWTH TRAILS WORLD

The United States began the New Year—at 12:01 a.m. January 1, 1977—with an estimated population of 216,451,900, according to Commerce's Bureau of the Census. The figure is about 1.6 million higher than the Bureau's estimate for one year earlier.

The Census Bureau estimates that the net gain was the result of about 3.1 million births, 1.9 million deaths, and net immigration of about 300,000.

The total includes the populations of the 50 states, the District of Columbia, and the armed forces and federal employees overseas and their dependents.

The estimated 1976 population gain was lower than the 1.8 million increase of 1975 but higher than the 1.5 million gain of 1974.

The rate of increase during 1976 was 0.7 percent. During the period 1947-1961 the annual rate ranged between 1.6 and 1.8 percent.

The Census Bureau notes that world population is estimated to have reached four billion by mid-1975, having added almost 1.5 billion in the quarter century between 1950 and 1975. At the end of the 25-year period, the report adds, world population was growing at an annual rate of about 1.8 percent—a rate of increase which, if continued, would double the world's population by 2014.

The report also shows the United States in fourth place among the nations of the world in population in 1975, behind the Peoples Republic of China (843 million), India (614 million) and the USSR (254 million). Immediately behind the U.S. were Indonesia (139 million), Japan (111 million), and Brazil (107 million).

Latest Statistical Abstract Gives 1976 Election Data; Has Over 100 New Tables

Tables with 1976 Presidential election returns are among many new features of the 97th edition of the *Statistical Abstract of the United States,* issued annually by Commerce's Bureau of the Census.

The election data include votes cast for President, by political party, 1912 to 1976; the electoral vote from 1932 to 1976; and the state-by-state popular vote in 1968, 1972 and 1976.

The edition contains more than 100 new tables, including many devoted especially to detailing the social and economic status of women, and some providing measures of financial problems of big cities.

The tables on women include data on characteristics of female family heads, contraceptive practices of married women, women in the armed forces, income and earnings of women, women below the poverty level and women-owned firms. The tables on big cities include data on finances of city governments by population size and, for selected large cities: finances per capita, taxes paid by families, residential property tax rates, and city government employment and payrolls.

Other new tables deal with:

—*Vital statistics and health:* Six new tables on average life-time, percentage of married persons divorced or separated, malpractice, insurance for physicians and surgeons, persons with visual impairments, and sales of drugs and drug products;

—*Environment:* Three new tables on national expenditures for pollution control, national air quality stations, and production and sales of synthetic pesticides;

—*Government:* Thirteen new tables on federal outlays in constant dollars, revenue losses due to federal tax laws, federal participation in credit markets, fixed capital formation of state and local governments, and county and city finances, including four tables relating to city finances;

—*Defense:* Five new tables on military sales and assistance to foreign governments, personnel and payroll of military agencies, and veteran benefits;

—*Income:* Five new tables on money earnings and income of various groups of workers, households owning motor vehicles, and sources of personal income;

—*Energy:* Five new tables on world energy consumption, fuels and electricity, the gas utility industry, and commercial nuclear power generation.

The '76 Statistical Abstract also has a selection of international data including six new tables on world population, projections, and characteristics.

Among miscellaneous new subjects included in the volume are children under 18, by presence of parents: Indochina refugees; state prison characteristics; percent of satisfied workers; assets of mutual funds; space vehicle systems; gasoline prices in selected countries; farm debt outstanding; world commercial fisheries; neighborhood characteristics of owner occupied and rental units.

The 1976 Statistical Abstract is available for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 or from Department of Commerce District Offices in major cities. Price is $10.50 for the clothbound and $8 for the paperbound edition.

Pocket Data Book Tells How We Were, Are

In 1789-91 the U.S. Government collected $4.4 million in receipts; in 1976 it collected an estimated $297.5 billion.

In 1790-91 the U.S. public debt was $152.7 million, or $19 per person; in 1976, it was an estimated $623.2 billion, or $2,904 per person.

In 1816 there were 5,000 Federal Government civilian employees; in 1975, the number was 2,897,000.

In 1800 American farmers spent an average of 56 man-hours to produce 15 bushels of wheat on an acre of land; in 1970-74, the average was about 3 man-hours to produce 31.1 bushels on an acre.

These are some of the statistics that appear in the *1976 Pocket Data Book* just issued by Commerce's Bureau of the Census. Featured in the new report, the fifth in a series begun in 1967, are tables comparing historical data to their present day counterparts in a special Bicentennial section, which also may be purchased separately.

The new *Pocket Data Book* also has updated, condensed tables on virtually all the subjects covered in the Bureau's recently issued *Statistical Abstract of the U.S.: 1976.* Included are updated figures on the nation's and the world's population, on vital statistics, immigration, government, elections, national defense and veterans, and many other subjects.

Published to meet the demand for statistics in a handy form, the *Pocket Data Book* contains 655 tables and scores of charts, along with sources of data on many aspects of the social and economic life of the nation.

Pocket Data Book: USA 1976 and the reprint, *Bicentennial Statistics,* may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (see back cover) or from any of the U.S. Department of Commerce District Offices which are located in major cities throughout the United States.

Meeting To Probe How To Develop Energy-Efficient Appliances For Buildings

The Federal Government's plans to develop energy-efficient appliances for buildings, lighting systems, space heating and cooling equipment, insulating materials and other consumer products are among topics to be discussed at a February 3 public meeting in Washington.

The meeting, sponsored by the Energy Research and Development Administration (ERDA), is the first in a series designed to acquaint potential contractors and the general public with ERDA's national program to develop energy-saving appliances and other construction-related consumer products and technologies.

The meeting agenda includes discussion of a decentralized management plan under which three ERDA National Laboratories will manage research projects, including those performed by contractors. Management of two specific program areas, heat pumps and infrared thermography to detect and measure heat loss from buildings, will be retained by ERDA headquarters.

The National Laboratories which will manage ERDA's consumer product and technology research include:

- Brookhaven National Laboratory—Research to improve the efficiency of heating and air conditioning equipment; to find better insulation materials; and to improve building control devices that can help provide energy savings in appliances and equipment.
- Lawrence Berkeley Laboratory—Research to save energy through improved windows and more efficient lighting.
- Oak Ridge National Laboratory—Research to improve the efficiencies of a wide range of consumer appliances used in residences and commercial buildings.

In addition to developing more energy-efficient products and technology, the ERDA program seeks to identify and overcome market barriers that may impede their commercial production and widespread consumer acceptance. Possible means for overcoming these barriers will be discussed.

For details, contact Eldon G. Ehlers, Consumer Products and Technology Branch, Office of Conservation, ERDA, Washington, D.C. 20545 (202/376-4590).

INAUGURAL DAY LIKELY TO BE FAIR AND COLD, BUT DON'T BET ON IT

Despite the recent snowfalls, history favors fair and chilly weather for President-elect Carter's swearing-in ceremonies on January 20.

According to Commerce's National Oceanic and Atmospheric Administration records, even though the coldest time of the year in Washington comes during late January and early February, temperatures on January 20 are usually not severe. Average weather conditions for noon, when the President-elect usually is sworn in, are a temperature of about 37 degrees, a wind of 10 miles-per-hour or less, and partly cloudy skies. Chances of precipitation during the ceremony itself are about 1 in 6, and of snow, 1 in 13.

These figures are climatological probabilities, not forecasts, and are based on more than 100 years of weather records for Washington, D.C. maintained by NOAA's Environmental Data Service. Weather forecasts for Inauguration Day will be issued by NOAA's National Weather Service. Extended outlooks began being issued January 16 and regular forecasts will begin January 18.

Of the 47 Presidential swearing-in ceremonies held to date, 19 were plagued by substantial rain or snow, bitter cold, or chilling winds.

Despite this rather dismal record, however, the odds are high that the weather for Mr. Carter's inauguration will be more pleasant. The reason? The 20th Amendment which, beginning in 1937, changed the date for Presidential inaugurations from March 4 to January 20. Weatherwise, the change means considerably less chance of rain or snow, though it favors lower temperatures.

Bearing this out, of the nine inaugurations held since 1937, only two—Franklin D. Roosevelt's second and that of John F. Kennedy—have been marred by significantly unpleasant weather. On the other hand, one out of every three inaugurations held on March 4 was notable for its wet and miserable weather.

Worst ever

"The worst weather on the face of the earth," said one eyewitness Congressman of the snowstorm that nearly buried the inauguration of William Howard Taft in 1909.

Heavy snow began the day before and continued through the night, driven by a stinging, whistling wind. Branches and telegraph and telephone lines snapped under the weight of the wet, clinging snow, while the wind toppled trees and poles. Pedestrians were quickly driven indors, and carriages and streetcars stalled as a thick white mantle enveloped the deserted streets of the nation's capital.

Six thousand shovelers struggled vainly through the night and forenoon to clear the areas in front of the White House and Capitol, and the route between. As noon approached, the storm howled on. People huddled in doorways or peered out at the arctic landscape through snow-streaked windows.

Postponing his decision until the last moment, Taft finally decided to take his oath of office in the Senate Chamber rather than on the outdoor platform erected in front of the Capitol. Ironically the snow stopped just a few minutes later and despite the icy, piercing wind, people began lining Pennsylvania Avenue for the Inaugural Parade.

Some 20,000 marchers sloshed past the snow-covered stands flanking the parade route. The wind howled through their ranks, playing particular havoc with the high-hatted representatives of various political clubs, while decorations and bunting whipped about in wind-torn shreds or sagged sadly under heavy burdens of snow. All in all, it was the worst Inauguration Day weather in the Nation's history. Quipped the newly-installed chief executive to a reporter: "I always knew it would be a cold day when I got to be President."

Coldest ever

The coldest Inauguration Day on record was the second inauguration of Ulysses S. Grant, on March 4, 1873. When cannon fire announced the dawn on March 4, 1873, the temperature was just four degrees above zero; by noon, it had risen only to 16 degrees. Throughout the day, icy winds gusting up to 40 miles an hour buffeted the city, knifing through the heaviest clothing and chilling to the bone all who ventured outdoors.

Despite the wind and cold, large crowds filled the streets. Heavy clothing and earmuffs were the uniform of the day, except for West Point cadets and Annapolis midshipmen, who were to parade without overcoats. When President Grant delivered his inaugural address, the wind made his words inaudible, even to those on the platform with him. Meanwhile, a number of lightly dressed cadets and midshipmen, who had been standing on the windswept Mall for more than an hour and a half, lost consciousness and collapsed; newspapers reported that several were "frozen."

It was almost as cold at the Inaugural Ball that night, held in a $40,000 temporary building erected on Judiciary Square. The contractor had neglected to install heating equipment. It was so cold that the guests danced in their overcoats and heavy wraps, and when the President and First Lady left just after midnight, so did everyone else.

Unfortunately, you can lose even when the climatic odds are with you. The very first inauguration held on January 20—that of Franklin Delano Roosevelt in 1937—was almost washed out by what was probably the heaviest rain in the event's history.

Wettest ever

It was a cold, miserable day. The temperature hovered just above freezing, while wind-blown rain fell in soaking, slanting sheets. Thousands of soggy spectators stood for hours in the downpour under a canopy of largely ineffective umbrellas. As he rode from the White House to the Capitol for the swearing-in ceremonies, Roosevelt repeatedly leaned out the window of his limousine to wave to knots of people clustered along Pennsylvania Avenue.

Undaunted by the cold, driving rain, thousands more had massed in front of the Capitol to witness the Inaugural Oath. On the Inaugural Platform itself, attendants dumped puddles of water from chairs as Cabinet members and Supreme Court justices waded down a waterlogged red carpet to their wet seats. Icy torrents blowing in under the roof bathed Congressmen, government officials, and guests alike, as Eleanor Roosevelt raced back and forth, bringing blankets for family and friends.

The head of the Inaugural Committee tried to talk Roosevelt into taking his oath indoors but he refused, replying "If they can take it, I can take it," and led Vice President-elect John Nance Garner out to the Inaugural Stand. The shivering, soggy crowd burst into cheers as Roosevelt was sworn in at 12:39 p.m., his right hand resting on the cellophane-wrapped old Dutch Bible of Claes Martenzen van Roosevelt. All during his Inaugural Address, the rain beat steadily on the President's face, and several times he had to pause to wipe it off.

Roosevelt insisted on an open car for the return ride to the White House. The thoroughly soaked President and First Lady rode the mile to the Executive Mansion laughing and waving to the crowds, who responded in kind. Later, Roosevelt spent another hour and a half watching the Inaugural Parade splash by from a specially constructed reviewing stand, an $11,000 model of Andrew Jackson's home, the Hermitage; he even had the bulletproof windows removed, the better to be seen and rained on.

Said harried Senator George William Norris of Nebraska, whose amendment had changed the inauguration date to January 20: "They're trying to blame this on me. You can't charge this up to me until after March 4, when you see what kind of day that is."

It was, of course, a beautiful day—sunny, with a high temperature of 67 degrees, unusually warm and pleasant for that date.

TASK FORCE REPORT PUTS PRODUCT LIABILITY 'CRISIS' IN PERSPECTIVE

The product liability problem is limited to certain industries, and is much more severe on small business than large. Although product liability insurance rates have skyrocketed in some areas, the problem seems more a question of whether insurance can be afforded than whether it is available, since only a few companies have been unable to obtain it.

This view of the product liability "crisis," as it has been called, is embodied in a briefing report by the Interagency Task Force on Product Liability, recently released. The task force was set up to conduct a six-month study of the problems caused by product liability claims against manufacturers.

While the briefing report makes no specific recommendations for legislative action, it points to a number of areas which it feels should be explored as a basis for possible legislative action. It also suggests certain areas in which beneficial action could be taken without legislation.

The Task Force claims the results of its study should do more to preclude precipitous legislation and duplicative research efforts than to find a total "cure-all" for product liability problems.

In the time period allowed for the study, the task force adds, it could not undertake a scientifically accurate poll of how product liability problems have affected American industry.

Nevertheless, the available facts suggest that the so-called product liability crisis is not a crisis at all, in the sense that a large sector of industry cannot obtain product liability insurance or that the increased cost of such insurance has made a substantial impact on the price of many products.

On the other hand, the group says it does seem clear that a number of small businesses are facing a difficult choice as to whether to go without product liability insurance or to purchase it at a sharply increased premium. This situation could become more severe.

Averting a crisis

"Obviously government action need not always spring from crisis. Each of the options set forth in this paper should be viewed as a vehicle that might help avert a crisis," says the report, in summarizing its major findings:

- In the years 1974-76, product liability insurance premiums appear to have risen substantially in most target industries. Among those most severely affected are industrial machinery, industrial chemicals, and high risk consumer goods such as pharmaceuticals, automotive parts, and medical devices. A similar impact is reported on sporting goods and ladder manufacturers.
- The problem of increased product liability insurance cost has been more severe for the smaller firms in these industries.
- Only a few companies have been unable to obtain product liability insurance. The problem appears to be more one of affordability than availability.
- In most industries, even those affected by a sharp increase in product liability premiums, that cost has accounted for less than 1 percent as a percentage of sales.
- A number of companies, large and small, are going without product liability insurance. This could affect injured consumers because it is unclear whether these companies have adequate resources to withstand substantial product liability judgments.
- The rate of increase in product liability claims appears to have been rising in excess of the rate of increase in actual product injuries.
- The concern about product liability has caused some manufacturers, e.g., pharmaceuticals, to forego or delay the introduction of new products. It is uncertain as to whether those decisions are beneficial or harmful to society.
- Product liability problems have caused industries and insurers to devote more time and resources toward product liability prevention techniques.
- Some persons who are injured by products receive full compensation from the present tort-litigation system, but many persons do not. Because some workers, by lawsuit, can shift the cost of a work-related accident from their employer to manufacturers of industrial products, economic pressure on workers' compensation systems is somewhat alleviated.
- The total dollar amount of pending claims in the target industries appears to have increased substantially in the 1970-75 period.

Independent status

The Task Force commissioned three independent contractors to study product liability in the insurance, legal, and industrial areas. The insurance and legal reports are expected to be available by the end of January, and the industrial report, which has been revised, in February.

Commerce Under Secretary Edward O. Vetter, who headed the task force, said at a news conference releasing the report that an effort was made to have the briefing report ready by the time Congress convened for the 1977 session "because whether we believe in legislation or not we are convinced that from the mood of some of the people we have talked to there will be some legislative proposals set forth."

As to whether he favored legislation, Vetter said: "I think that some legislation will be appropriate. At the present time I can't come down very hard on exactly what we should do based on the facts that we have developed."

Professor Victor E. Schwartz, of the University of Cincinnati Law School, who served as Project Director, said the task force had "taken the product liability problem a few steps forward" in the six months allotted to it, but that any group suggesting that it could come up with solutions in that time frame should be suspect.

Avoiding delays

He added that in order to assist the legislative effort on product liability the task force had passed up any attempt at interagency review of the briefing report, which would involve further delays.

Summarizing the probable causes of product liability problems, the task force lists the following in the briefing report, although it points out that it did not arrange them in order of importance:

Liability insurance rate-making procedures. Although product liability rate-making procedures are largely subjective in nature, they could be improved, and might result in lower insurance costs for at least some manufacturers.

The tort-litigation system. The law of product liability has become filled with uncertainties creating a lottery for both insurance rate makers and injured parties. A basic cause of this is the doctrinal conflict as to whether tort law should be a compensation system for persons injured by products or a means of apportioning responsibility based on fault.

Manufacturing practices. A cause of the product liability problem that should not be ignored is that some manufacturers produce unsafe products.

Other causes. Inflation, consumer awareness, increases in the number and complexity of products, and product misuse have also contributed to the product liability problem.

The task force reports that if effective reform action is to be taken in the area of product liability law, it probably has to be at the federal level. The task force concludes that federal regulation of product liability law and relevant insurance mechanisms would avoid duplicate efforts by the states, facilitate interstate commerce, and be more effective in reducing or stabilizing insurance costs.

Vetter said the following task force proposals would not require legislation:

- Clarify the rate-making mechanism of product liability coverage, "which has just grown, like Topsy."
- Make some of the accident prevention or product safety improvement techniques available to smaller companies.
- Clarify the tax status of insurance company deposits.

GOOD CATCH—*Conservation of the United States' marine resources is the goal of a new program of Commerce's National Marine Fisheries Service.*

REJUVENATED FISHING INDUSTRY IS GOAL OF 8-YEAR PROGRAM

A comprehensive program to rehabilitate the nation's marine fisheries, restore impaired fish habitats, enhance the economic impact of the fisheries industry, provide new jobs, and create greater opportunities for sport and recreational fishing, has been developed by the Commerce Department.

The program is discussed in detail in a 74-page booklet entitled *A Marine Fisheries Program for the Nation.* The booklet sets forth basic goals to be achieved, and tells of the depletion of fisheries stocks and the part that fishing by foreign vessels has played in this result, and makes specific recommendations for remedial action.

"Thirty years ago," comments Secretary of Commerce Elliot L. Richardson in a prefatory statement, "our fisheries seemed inexhaustible. Today we know they are not.

"The fault lies in large measure with man. Man is a voracious consumer, and modern technology has made it possible for fishing vessels to harvest the living resources of the seas in prodigious amounts. In recent years, many vessels, notably some flying foreign flags, have done so off our coasts and in the adjacent oceans without regard to the capability of fish to continue to renew themselves.

"As a result, approximately twenty species of fish and shellfish off our coasts have now been seriously depleted and many others are threatened.

"We have also been destroying, slowly and inadvertently, many of the habitats and spawning grounds of the fish and shellfish we harvest."

Richardson pointed to the 1976 Fishery Conservation and Management Act as the most significant fisheries legislation in the nation's history, and said it was the keystone of Commerce's program, which reflects years of study by the National Marine Fisheries Service (NMFS) of the National Oceanic and Atmospheric Administration (NOAA), with the assistance of state governments, the fishing industry, and recreational and environmental groups.

"The design of a new program for our marine fisheries is only a beginning," Richardson said. "We cannot permit the depletion of our fish stocks and the destruction of fish habitats to continue. We must learn to manage this resource so that we may use it to the optimum now and so that future generations may be able to use it and draw even greater yields from it."

Richardson said the landed value of the fish caught each year by the American commercial fishing industry is approximately $1 billion. The total impact on the nation's economy, he added, is about $6.5 billion, more than six times the value of the landed catch.

Direct expenditures for goods and services by marine anglers were estimated at $1.2 billion in 1970, the booklet says, and the indirect economic impact probably would be twice this amount. Thus marine fisheries as a whole generate about $10 billion annually in the economy.

"Commercial fishing," Richardson commented, "now provides employment for almost half a million persons, either directly or indirectly. The new program will deepen the total impact by an additional $1.5 billion, and will provide a significant increase in job opportunities for Americans.

"The new program will also benefit the growing number of marine recreational fishermen who make a significant contribution to household food budgets and indirectly provide increasing employment in supporting industries."

The booklet reports that in 1973, while foreign fishing fleets harvested an estimated 7.9 billion pounds of fish within 200 miles of the U.S. coast, the domestic fleet landed 4.4 billion pounds in the same area, and more than half a billion pounds, mostly tuna, off foreign shores. Meanwhile, it was estimated that U.S. marine recreational fishermen landed more than 1.6 billion pounds.

An increase of a billion pounds in the U.S. annual catch of food fish in the next decade, the booklet comments, would increase fishing revenues at dockside by $400 million a year, and could provide up to 30,000 news jobs, 6,000 of them directly in the fishing industry.

The report estimates the number of recreational fishermen at 30 million, and says the number is projected to increase by a further 50 percent by 1985.

Meanwhile, the demand for seafood is increasing rapidly. The report says that today 50 percent more fish and shellfish is consumed in the United States than in 1960, and that the present trend indicates that more than a third as much again will be required by 1985. The increase in consumption is being met by a fourfold rise in imports.

Only if present patterns are changed, the report says, can U.S. fisheries meet national needs. Otherwise, valuable stocks will continue to be depleted, fish habitats will continue to decrease, U.S. landings will remain static, recreational opportunities will diminish, and dependence upon imports of fishery products will grow.

Not only are many important stocks of fish already seriously deteriorated, but these changes in abundance may produce serious changes in ecological relationships that cannot now be forseen. Marine ecosystems are complex, and knowledge of them is limited, but it can easily be seen how overfishing creates additional dangers.

As a consequence of technological improvement, and over-capitalization, there exists the capability to fish to extinction. Awareness of this dreadful possibility is becoming universal. In addition, the

booklet explains, fish habitats in the U.S. coastal and estuarine waters continue to be lost to physical encroachments and the effects of pollution.

Many marine species, the booklet adds, are dependent upon such areas for their existence, but the environments they need are slowly but surely being diminished by dredging, filling, and other modifications of shorelines.

Information on the impact of these changes is fragmentary and incomplete, but much available evidence shows that the cumulative effect of such changes acts to reduce the stocks of fish upon which commercial and recreational harvests depend.

The 1976 Act asserts U.S. management authority over stocks of fish and shellfish within 200 miles of the U.S. coast, and over anadromous species of U.S. origin and Continental Shelf fishery resources. Anadromous species are those that ascend rivers to spawn, such as salmon and shad. Highly migratory species are excepted from this authority.

The 1976 Act establishes guidelines and collective organizational arrangements to insure protection of the fisheries and their wise use, and also provides for Regional Management Councils to develop management plans for each fishery, and gives the Secretary of Commerce authority to approve and enforce them beyond the territorial sea. Provision is made for collection of fees from operators of foreign vessels for permission to catch fish within the 200-mile zone.

The program proposed by the Commerce Department would be phased in incrementally. Much of it would be implemented over the next five years, but the program would not be fully developed until 1985.

Within this general context, the six recommendations made in the booklet and their corollaries follow:

—Establish policies, plans, and institutional arrangements to restore, maintain and enhance fish stocks within U.S. jurisdiction, to insure the equitable allocation of these stocks, and to assist in the conservation of stocks of importance to the United States outside U.S. waters.

Under this broad effort, plans would be made to manage fish stocks for optimum utilization, establish federal and state arrangements for management of domestic fisheries, develop a sound statistical and science data base for fisheries resources, improve federal and state surveillance and enforcement capabilities, establish a mechanism for allocating the fisheries harvest, develop a funding system to pay management costs, provide opportunity for U.S. fishermen to participate in fisheries for migratory species, and strengthen international arrangements with respect to salmonid stocks of U.S. origin.

—Reverse the downtrend in quantity and quality of fish habitats by minimizing further loss and degradation of habitats, restoring and enhancing them where possible and establishing sanctuaries where necessary.

—Strengthen the U.S. commercial industry to enable it to provide increased supplies at competitive prices.

This proposal would involve establishing an effective fisheries development program to enable the U.S. commercial fishing industry to enlarge its share of markets through increased productivity, lower costs, and increased acceptability of fishery products to the consumer, and also the designing of fisheries management plans and revision of unnecessarily restrictive regulations.

—Improve opportunities for participation in marine recreational fishing.

Under this heading, an effort would be made to increase research for the improved management of recreational fisheries, to achieve better distribution of information, increase the fisheries resources available for recreational use, to provide better access to fish areas, and to assist commercial enterprises in developing facilities for anglers.

—Insure the availability to the U.S. consumer of supplies of wholesome fishery products from U.S. sources sufficient to provide for projected increases in consumption.

This effort would involve increasing U.S. landings by 2.3 billion pounds by 1985, encouraging the development of aquaculture for selected species of fish and shellfish, and assuring the wholesomeness and identity of fishery products to U.S. consumers through a program of inspection of U.S. and foreign production facilities and supplies.

Port Everglades Gets 21st U.S. Foreign Trade Zone

U.S. manufacturers now have another duty-free oasis in which to process, store, exhibit or assemble products moving in international trade.

Commerce has approved the Port Everglades Authority's application to establish a foreign-trade zone within the Port Everglades Customs port of entry.

The zone will be located within one mile of the Port Everglades harbor facilities and two miles from the Fort Lauderdale/Hollywood International Airport. It will consist of 30 acres in an undeveloped industrial park area owned by the Authority. A concrete warehouse type building containing 110,000 square feet will be the first facility constructed by the Authority, with further development being of an industrial park type.

The zone is an integral part of the area's efforts to increase its tax base, reduce unemployment, and stimulate international trade related business activity.

A foreign-trade zone is an area under U.S. Customs supervision to which foreign merchandise may be brought without the immediate requirement of a formal Customs entry. Generally, the goods may be exhibited, stored, assembled, or used in manufacture within the zone, and duties need not be paid unless and until the goods or their end products enter U.S. Customs territory from the zone. Domestic goods moved into a zone for export are considered exported, for purposes of excise tax rebates and Customs drawback procedures, upon entering the zone.

Foreign-trade zone grants are issued under the Foreign-Trade Zones Act of 1934 which empowers the Board—consisting of the Secretary of Commerce, as Chairman, and the Secretaries of the Treasury and Army—to authorize qualified public and private corporations to establish zones in or near U.S. ports of entry.

Port Everglades becomes the 21st community to establish such a zone, joining New York City, New Orleans, San Francisco, Seattle, Mayaguez, Toledo, Honolulu, McAllen (Tex.), Kansas City (Mo.), Kansas City (Kan.), Little Rock, Bay City and Sault Ste. Marie (Mich.), San Jose (Calif.), Omaha, Portsmouth (Va.), Charleston (S.C.), Chicago, Buffalo, and Wilkes-Barre/Scranton (Pa.). San Francisco and Honolulu have special-purpose subzones which are connected with their zones.

Guide Offers 24 Ways To Cut Maintenance Costs

How can maintenance managers improve the efficiency of their entire operation and get the most out of each dollar spent on maintenance activities? Some answers can be found in *The Complete Handbook of Maintenance Management,* from Prentice-Hall, Inc.

This guide shows how to effectively organize maintenance operations and reduce costs to a minimum. Five basic management functions are covered step-by-step: planning, organizing, staffing, controlling and directing.

Sample forms are provided, as well as checklists and other practical working tools. The book is available for $24.95 from Prentice-Hall, Inc., Englewood Cliffs, N.J. 07632 (201-592-2489).

Calendar Of Business Events

Jan. 23-26—Washington—Washington Gift Show, Sheraton Park and Shoreham Americana hotels. Contact: Irene Weissmen, Little Shows, 261 Madison Ave., New York 10016 (212-986-4700).

Jan. 25—Cleveland — Energy seminar, Case Western Reserve U. Cosponsor: Commerce District Office. Contact: Case Western Reserve U. (216-368-4495).

Jan. 25-27 — Indianapolis — East/Central Engineering Conference and Tool Exposition, Indiana Convention-Exposition Ctr. Contact: Society of Manufacturing Engineers, P.O. Box 930, Dearborn, Mich. 48128 (313-271-1500).

Jan. 27-28 — Corpus Christi — Marine Safety Seminar, Hilton Inn. Sponsors: Marine Services of Texas, Texas A&M Univ. Contact: Dewayne Hollin, 1200 S. Post Oak Rd., Suite 422, Houston, Tex. 77056 (213-626-0824).

Jan. 27-28 — Arlington, Va. — Software Mgt.—Phase II—Implementation, Crystal City Marriott. Sponsor: American Institute of Aeronautics & Astronautics. Contact: Helen L. Flournoy, P.O. Box 1710. Long Beach, Calif. 90801 (213-432-7946). Also in **Boston, Feb. 14-15.**

Jan. 31-Feb. 1—Arlington, Va.—Proposal Preparation & Source Selection seminar, Ramada-Rosslyn. Contact: Helen L. Flournoy, see address above.

Jan. 31-Feb. 1—San Francisco—Collective Bargaining seminar, Mark Hopkins Hotel. Contact: Practising Law Institute, 810 Seventh Ave., New York 10019 (212-765-5700).

Feb. 1-3—St. Louis—Impact of Improved Cam Design & Manufacture, Chase-Park Plaza Hotel. Contact: Society of Manufacturing Engineers, address abv.

Feb. 1-4—Washington—Finance and Accounting for Non-Financial Managers, Georgetown U. Contact: Betsy Girton, Continuing Mgt. Education Program—SSCE, Georgetown U., 1901 N. Moore St., Education Ctr.-L' Rosslyn, Va. 22209 (703-525-6300).

Feb. 2—San Francisco—Introduction to Data Processing for Small Business, Sheraton-Palace Hotel. Contact: Center for Mgt. Development, Golden Gate U., 536 Mission St., San Francisco, Calif. 94105 (415-391-7800 ext. 323).

Feb. 2—New Orleans—National Water Quality Workshop, Braniff Place Hotel. Contact: James W. Ayers, National Marine Fisheries Service, #1 Union National Plaza, Suite 1160, Little Rock, Ark. 72201.

Feb. 3-4—San Francisco—Strikes, Stoppages and Boycotts conference, Mark Hopkins Hotel. Contact: Practising Law Institute, 810 Seventh Ave., New York 10019 (212-765-5700).

Feb. 7-8 — Chicago — Fundamentals of Management and Organizational Behavior for Women, Sheraton Chicago. Contact: New York Conference Mgt. Ctr., 360 Lexington Ave., New York 10017 (212-953-7266).

Feb. 7-10—Chicago—Symposium on SNG: Project Objectives & Planning, Sheraton O'Hare. Contact: Kathy Fisher, Institute of Gas Technology 3424 S. State St., Chicago, Ill. 60616 (312-567-3881).

Feb. 7-11 — Chicago — Fundamentals of Plastics, Sheraton Plaza. Contact: Heidi Kaplan, N.Y. Conference Mgt. Ctr., see address above.

Feb. 8-11—Washington—32nd Conference of the Reinforced Plastics/Composites Institute, Shoreham Americana Hotel. Contact: Joseph S. McDermott, RP/C Institute, Society of the Plastics Industry, Inc., 355 Lexington Ave., New York 10017 (212-573-9400).

Feb. 10—Kerrville, Tex.—Business Opportunity/Federal Procurement Conference, Schreiner College. Contact: Sherri Shaver, c/o U.S. Rep. Bob Krueger, 512 Cannon House Office Bldg., Washington, D.C. 20515 (202-225-4236).

Feb. 10-11 — Las Vegas — Design/Build, Build/Lease & Financing Building Projects seminar, conducted by Jack Miller. Contact: Madeline Graeter, Group Communications, 6101 Southwest Freeway, Suite 401, Houston, Tex. 77057 (713-664-8818).

Feb. 10-12—Washington—Environmental Law course, Sheraton Park Hotel. Sponsors: Environmental Law Institute & Smithsonian Institution. Contact: Donald M. Maclay, American Law Institute — American Bar Assn., 4025 Chestnut St., Philadelphia, Pa. 19104 (215-387-3000).

Feb. 11—Gaithersburg, Md.—Symposium on Thermal Analysis, Human Comfort & Indoor Environments, National Bureau of Standards. Contact: B. W. Mangum, B122 Physics Bldg., NBS, Washington, D.C. 20234 (301-921-2098).

Feb. 13-16—New Orleans—1977 Int'l Exposition for Food Processors, Superdome. Contact: Food Processing Machinery and Supplies Assn., 7758 Wisconsin Ave., Washington, D.C. 20014 (301-656-5724).

Feb. 13-18—Chicago—Chicago Gift Show, Expo/Center & McCormick Pl. Contact: Little Shows, see address above.

Comments Asked On Electric Utilities' Technical Needs

A draft report assessing the future technical needs of the nation's electrical utility industry has been released for public comment by the Energy Research and Development Administration.

The 250-page report, *Comparing New Technologies for the Electrical Utilities,* is ERDA's first attempt to project the needs of the industry and to review the agency's programs designed to meet those needs.

Currently, about two-thirds of ERDA's energy research, development and demonstration budget is for programs with potential application to electric utilities.

While the report does not purport to establish ERDA's policies in this area, it does attempt to analyze which technologies would be the most attractive candidates for its support.

Copies of the draft report are available for review and comment by any interested group or individual from the Office of Evaluation, ERDA, Washington, D.C. 20545. Comments must be received by Jan. 31 to be considered in preparation of the final report.

Report Tells How To Fight Crimes Against Business

Copies of the 125-page publication, *Crimes Against Business: Proceedings of a Seminar Held in Phoenix, Arizona, April 23, 1976,* are available at $1.90 per copy from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, and many Commerce district offices.

Cosponsored by the Phoenix Metropolitan Chamber of Commerce, Congressman John J. Rhodes, and the U.S. Department of Commerce, the proceedings include discussions of white collar crimes; means by which business and government can cooperate in fighting crimes; control of internal and external losses, and local solutions to crime problems.

Study Reviews Warehousing Industry's Machinery Needs

Product distribution—the channeling of goods from producer to consumer—is big business, accounting for some 20 percent of the United States' GNP, according to a report from Frost and Sullivan, Inc. The New York-based market research organization sees warehousing associated with distribution as an estimated $60 billion a year business.

For further information about Reference Report #H104, contact Customer Service, Frost & Sullivan, Inc., 106 Fulton St., New York 10038 (212-233-1080).

International Commerce Report

Machine Tool Mission Finds SE Asian Buyers

INDUSTRIAL DEVELOPMENT, INTEREST IN U.S. EQUIPMENT POINT TO PROSPECTS IN KOREA, TAIWAN, PHILIPPINES

Industrial development plans in several Pacific Basin nations and a receptiveness to American-built equipment should induce U.S. machine tool makers to compete more aggressively against the strong Japanese competition in that area.

Such is the consensus of a U.S. metalworking equipment trade mission that recently went in search of business in Korea, the Republic of China (Taiwan) and the Philippines.

Business and government contacts in each of the countries visited were keenly interested in American equipment—largely because of the generally superior quality and technology of U.S. products, reports Mission Director William E. Ruxton of the National Tool, Die and Precision Machining Association.

To meet the competition, however, U.S. firms must maintain an active presence in these markets to keep prospective customers informed of the advantages and capabilities of American metalworking equipment. Toward that goal, Ruxton explains, selection and appointment of sales and engineering representatives was high on the seven-member mission's list of priorities. Eight such representatives were appointed throughout the countries visited, with 12 more appointments pending.

Although pricing and financing continue to favor Japanese suppliers, these obstacles are not insurmountable, as evidenced by the mission members' $885,500 worth of sales during the two-week tour and estimates of several million dollars' worth of orders in the next 12 months. A substantial portion of the "immediate" sales, however, had been under negotiation before the group's arrival. Some of the participants' market observations, by country, follow:

Development in Korea

A comprehensive plan for industrial development will continue to make the Republic of Korea a highly attractive market for U.S. equipment over the next five to 10 years. Of particular interest is the complex currently under development at Changwon. The Korean Government is now making generous loans available to Korean industry for upgrading and expansion, particularly in the machine tool end-user industries. The Government is also highly receptive to U.S. licensing, joint ventures, and investments, and is encouraging such arrangements through a Foreign Capital Inducement Law that provides tax relief and other incentives.

Although Korea's industrialization plans include an extensive program for training skilled metalworking technicians, a shortage of these craftsmen currently exists. As a result, machine tool purchasers often award contracts to those vendors providing the best arrangements for installation, service, and training—especially when dealing with sophisticated equipment.

Taiwan most industrialized

As in Korea, a national commitment exists to upgrade Taiwan's fledgling machine tool industries and to reduce their dependence upon Japanese equipment and supplies. The Republic of China is the most highly industrialized of the three countries visited. One of the members pointed out that in the past, U.S. metalworking firms have devoted much attention to Taiwan's government-operated defense industry and that the time is right to direct more sales efforts to the private sector. The mission's visit was highlighted by a trip to the heavy industry complex at Kaoshiung and tours of two machine tool plants. One of the

AT WORK IN KOREA—*During machine tool trade mission press conference in Seoul, Director William E. Ruxton (standing) answers a question. In photo at right, Marijan Knez of Allison Chuck Products explains a point to sales prospect.*

AT WORK IN PHILIPPINES—*In Manila, Mission Director Ruxton (right) and T. L. Robinson of U.S. Embassy talk with Trade Secretary Troadio T. Quiazon, Jr.*

group, T. A. Diamond of Deon Equipment Co., Inc., Plainview, N.Y., described Taiwan as "a tremendous market for heavy and more sophisticated machine tools."

[A Commerce-sponsored machine tool show is scheduled for the Taipei U.S. Trade Center in May; contact the Department's Dave Horridge, 202-377-2798, for details.]

Advantages in Philippines

Development of Philippine machine tool industries plays an important role in efforts to improve the country's serious overall trade deficit. Although the current market is somewhat weaker than in Korea or Taiwan, U.S. metalworking firms have several potential advantages over other third-country suppliers. First, because of general U.S. influence in this area, the industrial community is receptive to U.S. products and technology although metalworking equipment purchasers often appear to be uninformed about specific capabilities and availability of American equipment. Second, English is the predominant language, facilitating business and engineering transactions. Finally, the Philippines has traditionally enjoyed a favorable balance of trade with the United States, despite an overall trade deficit. The most successful U.S. firms in the Philippines have been those that have maintained an active presence in the market. To take full advantage of the country's expected growth, increased American activity in the Philippines will be required.

Gerard A. Paquin of Cone-Blanchard Machine Co., Windsor, Vt., observed as the business tour ended: "Even though we're 'old to market,' the mission provided the opportunity to meet with top-level industry and government officials that are not always accessible to a person working independently."

Additional mission members were: Alvin Ebel, Seneca Falls Machine Co., Seneca Falls, N.Y.; Jack Haines, Hansvedt Engineering, Inc., Urbana, Ill.; Arthur Hasty, Apex Broach & Machine Co., Detroit; Marijan Knez, Allison Chuck Products, San Pedro, Calif.; and Robert B. Tanner, Morey Machinery, Inc., Middletown, N.Y.

Group To Meet Europeans Seeking To Invest In U.S.

To explore the burgeoning opportunities offered by European direct capital investment in the United States, American business executives and investors may wish to participate in an upcoming "field trip" to Germany and Italy.

Such a trip is being planned for Rome, Turin, Munich, Bonn, and Cologne March 4-14. The event, sponsored by *Financial World* Magazine, will open a direct dialogue between American executives and their European counterparts on what investment opportunities they may be seeking in the United States and what capital investment opportunities they may want to share with U.S. firms in other parts of the world. For details, call: Monica de Hellerman, Field Trip Director, *Financial World,* New York, 212-876-2776.

Firms Invited To Apply For Guam Watchmaking Benefit

Duty-free quota allocations for watches assembled in Guam may be made to interested firms that apply by March 1, the Commerce and Interior Departments have announced. This action is related to a 10-year-old federal program to assist the economies of Guam and other U.S. insular possessions (Virgin Islands, American Samoa) by permitting duty-free entry from there of watches and watch movements assembled from foreign-made watch parts.

This benefit applies to watches in which the foreign content does not exceed 70 percent of total appraised value. U.S. duties on watch movements typically range from $.75 to $2.75. Other insular products whose foreign content does not exceed 50 percent are also eligible for duty-free treatment under an older tariff provision designed to encourage the development of light industry in the U.S. insular possessions.

Last year the Guam quota allocation reached a total of nearly 500,000 units, and a similar total is expected to be allocated in 1977. A quota of 150,000 units is specifically set aside for new applicants, who are to be evaluated on their capability to set up successful production and marketing operations and on their potential for assisting the Guamanian economy.

Detailed information is available from: Special Import Programs Division, Office of Import Programs, Room 6895, U.S. Department of Commerce, Washington, D.C. 20230. phone 202-377-4038.

Chicago World Trade Meeting Scheduled March 31, April 1

Samuel B. Casey, Jr., president and chief executive officer of Pullman, Inc., will keynote the opening session of the 40th Chicago World Trade Conference, to be held March 31-April 1 at the Hyatt Regency Chicago Hotel. Casey also serves as chairman of the conference.

The Chicago Association of Commerce and Industry and the International Trade Club of Chicago are joint sponsors of the meeting, which will identify major priorities facing the international business community, and stress effective and practical strategies to expand international trade and investment. General sessions will be devoted to the following subjects: International Finance and Capital Formation, The New World Marketplace—Everybody's Business and Regulation of International Business.

Additional information is available from 40th Chicago World Trade Conference, 130 South Michigan Ave., Chicago, Ill. 60603, phone 312-786-0111.

Official Trade Briefs

This article is another in a series of reports that describes actions affecting world trade, as compiled by the Legislative and Tariff Policy Division of the International Economic Policy and Research Bureau's Office of International Trade Policy.

THE PRESIDENT

Increased Brandy Duties: The President issued Proclamation 4478, effective Dec. 26, raising to $3 per gallon the duty on bottled brandy valued at over $13 but not over $17 per gallon and on bulk brandy valued at over $9 but not over $17 per gallon. Prior duties were $1.25 and $1, respectively. This action was taken because no solution has been reached between the U.S. and the Common Market regarding removal of the EC's import restrictions on **poultry** from the U.S. The U.S. had imposed a $5 per gallon tariff on brandy in December 1963 in response to the EC's institution of the restrictions but had reduced this duty in July 1974 in an effort to encourage resolution of this long-standing trade problem.

The recent proclamation was made pursuant to authority provided by section 125(c) of the Trade Act of 1974, the so-called "self-compensation provision," which permits the President to exercise the rights and fulfill the obligations of the United States under trade agreements so as to protect U.S. trading interests.

SPECIAL TRADE REPRESENTATIVE

Generalized System of Preferences—Leather Wearing Apparel: The Trade Policy Staff Committee, in a decision reviewed by the Trade Policy Review Group, denied the petition filed by several interested parties requesting the removal of **leather wearing apparel** from GSP eligibility. Notice of this decision was published in the Dec. 17 *Federal Register*.

The petitions were filed last February, and it was announced in September that action was being deferred on the petitions pending receipt by the committee of information regarding current U.S. production and employment trends which had been requested from the U.S. International Trade Commission. The committee took into account this information, the presentations made at a public hearing in June, and all other available information.

In addition, the committee and the review group particularly noted the fact that leather apparel imports from the two GSP beneficiary countries which supplied the largest amount of such imports during 1976 are expected to be ineligible for duty-free treatment under GSP in 1977 due to the competitive need limits set forth in Section 504(c) of the Trade Act. During the first ten months of 1976, a relatively small proportion of leather apparel imports came from countries that are expected to maintain GSP eligibility for leather apparel during 1977. Moreover, leather apparel imports from such countries constituted a small proportion of domestic production and consumption.

This denial does not preclude interested parties from petitioning the committee again with respect to the GSP eligibility status of leather wearing apparel.

Public Hearings: The Trade Policy Staff Committee held public hearings last month to receive testimony regarding items currently being considered by the committee for modification of their GSP eligibility status. The items being reviewed are either subjects of petitions filed by interested parties or are being considered on the committee's own motion. Major trade items being considered for addition to the list of GSP eligible items include **semiconductor parts** and certain **chemicals.** Major trade items being considered for removal from the eligible item list include **acrylic sheet** and **wood doors.** Decisions on most of the items will be made within the next month and any necessary changes in the list of eligible items will most likely be effective March 1.

Section 301—Unfair Trade Practices: Two complaints have been filed with the Special Trade Representative alleging unfair trade practices by the EC in preferential treatment granted **citrus products** from certain Mediterranean countries. The duty preferences are said to violate the Most-Favored-Nation provision of GATT Article I and to be unjustifiable and unreasonable practices under section 301(a) of the U.S. Trade Act of 1974. The complainants have agreed to consolidation of the two cases and have requested a hearing, to be held at 10 a.m. Jan. 25, at the Office of the Special Representative for Trade Negotiations, 1800 G Street, NW., Washington, D.C. Room 730.

TREASURY

Antidumping: The Department has announced initiation of an investigation concerning **sodium saccharin** in soluble powder and soluble granular form from Japan and Korea, and the reopening of a previously discontinued investigation regarding alleged dumping of **railway track maintenance equipment** from Austria. The latter action follows allegations that the price assurances upon which the discontinuance was based are being violated. It is the first time Treasury has found it necessary to reopen a discontinued investigation.

Determinations in three other cases of alleged sales at less than fair value were recently announced. The investigation concerning **automobile body dies** from Japan was finally discontinued; the case regarding **metal-walled above-ground swimming pools** from Japan was tentatively discontinued; and a tentative determination was made that imports from the Republic of Korea of **monosodium glutamate** are not being sold at less than fair value.

In addition, the Department announced Dec. 14 a six-month withholding of appraisement on **round head steel drum plugs** from Japan. Under the Antidumping Act, the Secretary of the Treasury is required to withhold appraisement, pending determination on the issue, whenever he has reasonable cause to believe or suspect that sales at less than fair value may be taking place.

Finally, the investigatory period in the antidumping investigation of **pressure sensitive tape** from Italy has been extended for no more than three months with a tentative finding regarding sales at less than fair value now due on Feb. 14.

Countervailing Duty Cases: The Department has initiated four new countervailing duty investigations regarding allegations of payments of bounties or grants, within the meaning of section 303 of the Tariff Act of 1930, and has reinstituted a fifth. Of the five investigations three concern imports from Italy: two new ones on **iron and steel chain** and **grain oriented silicon steel** and the reinstituted investigation on **canned tomatoes** and **tomato concentrates.** The other new investigations concern imports from Korea: **leather wearing apparel** and **cordage.**

In other countervailing duty actions, the Treasury Department has announced its final determination that bounties or grants are being paid on exports of **Vitamin K** from Spain. A countervailing duty will therefore be assessed on U.S.

- **ITC recommends a tariff rate quota on imports of non-rubber footwear**
- **8,600 auto workers certified eligible to apply for adjustment assistance**
- **Canada imposes quota on imports of clothing**
- **Brandy duties increased**

imports of the subject product in the amount of 10.5 percent ad valorem. Also, the Department issued affirmative preliminary determinations in the countervailing duty cases regarding **zinc** from Spain and **handbags** from the Republic of China. A negative preliminary determination has been made, however, regarding **handbags** from Korea on the ground that any bounties or grants being bestowed are minimal.

LABOR

Adjustment Assistance—Auto Workers: Approximately 8,600 parts workers at the American Motors Corp. (AMC) plants in Milwaukee and Kenosha, Wis., have been certified by the Labor Department as eligible to apply for trade adjustment assistance. The certification follows a finding that workers have been or may become unemployed as a result of increased imports of subcompact, compact or intermediate size **cars**, and applies only to workers engaged in production of **stampings, forgings** and **body assemblies** at the Milwaukee plant and in production of **body assemblies** at the Kenosha plant. The Department denied petitions filed on behalf of 3,400 AMC employees, including those engaged in production of **engines, axles, gears, stampings** and **forgings** at the Kenosha plant, and all workers at the AMC Zonal Sales Office in St. Louis and the AMC Parts Distribution Center in Milwaukee. Investigation by the Labor Department did not support the claim that increased imports contributed importantly to their unemployment.

Certifications: The Department, having found that workers at a number of other firms have been or may become unemployed as a result of increased imports, has certified such workers as eligible to apply for trade adjustment assistance. The workers certified (numbers where available are approximate) are:

MGD Graphic Systems Group of Rockwell International, Chicago **(sheet-fed printing presses)** 360; International Shoe Co., Hopkinsville, Ky. **(men's shoes)**, 300; U-Brand Corp., Ashland and Shelby, Ohio **(malleable iron pipe fittings)** 140; Canterbury Belts of Puerto Rico, Inc., Mayaguez, P.R. **(leather belts)** 115; J. H. Bonck Co., Inc., New Orleans **(men's and boys' woven dress, sport and unform shirts)** 40; Jacoby-Bender Inc., Woodside, N.Y. **(metal watchbands)** 40; C.C.C. Clothes, New York **(men's sport and suit-type coats)** 5; Miller Druck Co., Inc., New York **(finished marble)** 4; The William Mfg. Co., Portsmouth, Ohio **(women's, children's shoes)** 225.

Also, Lycoming Shoe Co., West Liberty and Stanton, Ky. **(women's and children's shoes)** 270; Oak Industries, Inc., Elkhorn, Wis. **(CATV converters)** 250; Brown Shoe Co., Steelville, Mo. **(component parts for shoes)** 200; A. Jacobs and Sons, Inc., Lynn, Mass. **(athletic footwear)** 65; Detroit Automotive Products, Warren, Mich. **(components for limited slip differentials)** 20; Apparel Sportswear, Inc., New York **(women's clothing)** 15; Charles H. Liehmen and Brother, Inc., Philadelphia **(men's suits and sport coats)** 10; Allied Chemical Coatings, Inc., Saco, Maine **(canvas footwear)** 320; Simonds Cutting Tools Div., Wallace Murray Corp., Newcomerstown, Ohio **(hand files)** 240; Globe Metallurgical Div., Interlake, Inc., Beverly, Ohio **(ferrochrome alloys, silicon metal)** 120; General Shoe Co., Frankfort, Ky. **(women's shoes)** 225; Weyenberg Shoe Mfg. Co., Westport Plant, Portage, Wis. **(men's dress shoes)** 175; Carteret Products, Inc., Carteret, N.J. **(men's dress and sport shirts)** 60; Milford Shoe, Inc., Milford, Mass. **(men's shoes)** 40; Chips N Twigs, Inc., Fashionkilt Clothes Div., Philadelphia **(men's suits, sport coats and pants)**; and Briede and Rogovsky, St. Louis and Chicago **(men's tailored clothing)** 170.

Denials: The Department denied petitions for trade adjustment assistance for workers of the following firms: MGD Graphic Systems Group of Rockwell International, Chicago **(web-fed offset printing presses)**; Jacoby-Bender, Inc., New York **(leather watchbands)**; Miller Druck Co., Inc., New York **(installation of finished marble)**; Oak Industries, Inc., Elkhorn, Wis. **(TV tuners)**; Detroit Automotive Products, Warren, Mich. **(assembling components for slip differentials)**; Stride Rite Corp., Boston **(shoes)** 140; Stride Rite Mfg. Corp., Brockton, Mass. **(children's shoes)**; Bethlehem Steel Corp., Lackawanna Plant, Woodlawn, N.Y. **(transportation of steel products)** 130; Little Lisa Limited, New York **(importing of knit tops)**; American Stamping Co., Euclid, Ohio **(backing plates, dust shields)** 120.

Also ITT Higbie Mfg. Co., Inc., Avon Div., Rochester, Mich. **(fabricated bent tubing, straight length tubing, push rods)** 8; Rockwell International Admiral Group. Engineering Dept., Chicago **(color and monochrome televisions)** 40; Meramec Industries, Inc., Sullivan, Mo. **(heels and shoes)** 10; National Tea Co., Mishawaka, Ind. **(providing of durable goods and foodstuffs)**; Phelps Cooperative Society, Phelps, Wis. **(retailing of consumer articles)**; Western Metal Corp., Hormigueros, P.R. **(metal fish bins and racks)** 8; Brookfield Athletic Shoe Co., Inc., East Brookfield, Mass., **(athletic footwear)** 230; Carling National Breweries, Inc., Natick, Mass. **(malt beverages)** 190; Interstate Mfg. Corp., Morrilton, Ark. and Romeo, Mich. **(custom molded plastic parts for autos)** 355; Novelty Slipper Co., Port Jarvis, N.Y. **(women's non-rubber footwear)** 85; Universal Communication Systems, Inc. Roanoke, Va. **(telephone equipment)** 25.

Also, Marlboro Footwear Corp., Marlboro, Mass. **(women's shoes)** 240; Sagamore Shoe Co., Inc., Sagamore, Mass. **(leather handbags, wallets, belts and eyeglass cases)** 3; Wilber's, Inc., Boston **(retail selling of women's and misses' shoes, handbags, hosiery, etc.)**; Kayser Roth, Whitman, Mass. **(men's shoes)**; Kennett Canning Co., Kennett Square, Pa. **(processed mushrooms)** 130; Florsheim Shoe Co., Cape Girardeau, Mo., **(men's footwear)** 90; Fashion Shoe Products, Inc., Sullivan, Mo. **(heels and soles)** 5; Gary Garment Co., Mayaguez, P.R. **(women's embroidered footwear)** 25; International Shoe Co., Batesville, Ark. **(men's shoes)** 20; Ellison Clothes, Inc., Baltimore **(men's and women's clothing)** 10; Midwest Machinery Movers, Chicago **(providing of truck drivers and dock workers)**; and United Screw and Bolt Corp., Cleveland Fastener Div., Cleveland **(specialty screws)**.

New Investigations: New investigations to determine eligibility of workers for adjustment assistance have recently been initiated regarding workers at 50 plants in 12 states and Puerto Rico. The majority involve the clothing industry and several involve the shoe industry.

AGRICULTURE

Importation of Raisins: The Agriculture Department has relaxed, until Nov. 30, 1977, the grade requirements on imported **raisins**. The relaxation of requirements for imports follows a similar domestic relaxation.

INTERNATIONAL TRADE COMMISSION

Section 201—Import Relief: The ITC has announced one negative finding and two affirmative determinations in three "escape clause" cases.

An ITC recommendation, issued Jan. 6, by a 4-2 vote, proposes that a tariff rate quota system be imposed on imports of certain **non-rubber footwear.** The system would provide that for three years a tariff would be imposed on all imports of the subject footwear in excess of 265.5 million pairs per year at a rate of 40 percent ad valorum. During the fourth year, the rate would be 30 percent and during the fifth it would be 20 percent.

The recommendation follows a Commission finding, made Dec. 28 by a 6-0 vote, that increased imports are a substantial cause of injury to the U.S. domestic non-rubber footwear industry. The President will have 60 days from the date upon which the Commission's report on the case and recommendation are formally presented to him in which to decide whether he will follow the ITC recommendation and, if not, to determine what other form of relief for the industry, if any, he will order.

This represents the second time the Commission has investigated the effects of imports on the domestic non-rubber footwear industry under the Trade Act. In the case of the first 201 investigation, in 1975, the Commission also made an affirmative finding, but in the subsequent absence of a voting majority as to a recommended remedy, the President ordered that only expedited trade adjustment assistance be made available to the domestic industry. On Sept. 28, because of increases in imports, the Senate Committee on Finance requested an ITC reinvestigation.

Following another reinvestigation, and a finding on Dec. 21, by a 4-1 vote, of import injury to the domestic **canned mushroom** industry, the Commission, on Dec. 23, by a 3-2 vote, made a remedy recommendation of a tariff quota system. The ITC's first escape clause investigation of canned mushrooms was concluded in March and resulted in a finding of injury with the recommended remedy being use of adjustment assistance. Because of increases in imports, the President requested the second investigation under a provision of the Trade Act which permits a reinvestigation within a year of the prior one upon a finding of "good cause" by the Commission. The Governments of the Republic of China and Korea, following consultations with the U.S., had stated their intention to moderate exports of canned mushrooms to the U.S. pending the new investigation outcome.

Finally, in the case regarding **plant hangers,** the Commission unanimously held that increased imports are not a substantial cause of serious injury, or threat thereof, to the U.S. domestic industry, producing like or directly competitive products. The domestic industry, primarily located in California and heavily labor intensive, has experienced growth in sales, profits and employment in recent years despite the fact that imports now account for about 90 percent of U.S. consumption.

Section 337: Unfair Trade Practices—Television Receivers: The Commission has suspended the section 337 case on Japanese **television receivers** pending outcome of the section 201 "escape clause" case dealing with the same product. Prior to the suspension, the following rulings were made on several important motions and will remain in effect in spite of the suspension: First: the presiding officer's denial of a motion to dismiss the case was upheld by the Commission which ruled that the ITC has, as a matter of law, jurisdiction over the case and that it should, as a matter of policy, exercise that jurisdiction despite the fact that the Commission had notified the Secretary of the Treasury, under section 337(b) (3), that sales at less than fair value or foreign government bounties or grants could be involved; second, the motion of the investigative attorney to designate the investigation as "more complicated," was upheld by the Commission, thereby extending the investigatory period from 12 to 18 months. Following a third motion, the Commission terminated Mitsubishi Corp. status as a party but determined that Mitsubishi International Corp. had not demonstrated that it was not a proper party to the investigation.

Other Section 337 Action: The Commission has initiated an investigation in response to a complaint filed under section 337 of the Tariff Act of 1930 alleging unfair methods of competition and unfair acts in the importation or sale of certain **knitting machines and throat plates** therefor from Italy by reason of the alleged coverage of such throat plates by a U.S. patent.

Finally, the Commissioners voted to deny a motion for designation of the investigation into certain **above-ground swimming pools** from Japan as a "more complicated" one under section 337(b) or, in the alternative, for suspension of the proceedings. The denied motion was based principally on the contention that duplicative and burdensome proceedings were involved, as the Treasury Department was conducting an investigation regarding the same merchandise under the antidumping law.

Antidumping Cases: The ITC has determined that the sales at less than fair value of **knitting machines** for ladies' seamless hosiery from Italy and of **portland hydraulic cement** from Mexico have not resulted in injury to any domestic industry. Special antidumping duties will not therefore be assessed on the subject goods. The Commission determined however that a domestic industry is being and is likely to be injured by dumping of **melamine in crystal form** from Japan, and the Treasury will thus assess antidumping duties.

Hearings: Public hearings in connection with the ITC investigation of competitive conditions in the **watch** industry have been rescheduled to begin at 10 a.m. March 15 in Washington. Requests to appear must be received by the ITC Secretary by noon March 10. Another hearing on the ITC schedule is at 10 a.m. Jan. 27, to obtain public comments on the draft of Chapter 84 of the Harmonized Commodity Description and Coding System concerning **"Boilers, machinery and mechanical appliances; and parts thereof."** Requests to appear must be filed in writing by Jan. 20, and written comments will be accepted until Feb. 7.

Amended Regulations: Proposed amendments to Title 19 of the Code of Federal Regulations, dealing with the procedures for conducting investigations to determine the existence of injury to a domestic industry under the antidumping and countervailing duty laws, and section 301(c) (2) of the Trade Act of 1974, have been published in the Dec. 27 *Federal Register*. The proposed changes in the regulations reflect, in large part, the increased responsibilities of the ITC resulting from provisions of the Trades Act of 1974. Interested persons may participate in the rulemaking process by submitting written data, views or arguments to the ITC Secretary by Jan. 26.

INTERNATIONAL

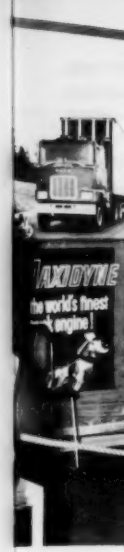
Foreign Antidumping Actions: Three new investigations have been initiated under the Canadian Anti-Dumping Act to determine whether goods originating in or exported from the U.S. are being sold at less than fair value. The products concerned are certain **acrylic sheet, disposable electrodes** for use with cardiac monitoring and diagnostic systems, and **acrylic fibers.**

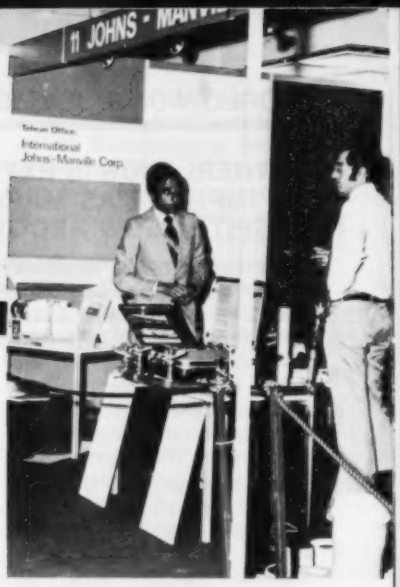
In other Canadian actions, the Anti-Dumping Tribunal recently issued a final determination that dumping of **painted aluminum rollformed sheets and related parts** used in the manufacture of step-down awnings, originating in the U.S., has not caused injury to Canadian production of like goods. On the other hand, a final affirmative dumping determination has been issued regarding **tapered roller bearings** from the U.S., following findings of both sales at less than fair value in Canada and material injury to Canadian production. A special antidumping duty will therefore be assessed on the subject products.

In addition, the Canadian Anti-Dumping Tribunal has initiated inquiry into the issue of material injury being caused by sales at less than fair value of **textured or bulked polyester filament yarn** originating in or exported from the U.S. This action follows a preliminary determination of dumping.

Finally, in Australia, the Bureau of Customs has reported that all allegations against Union Carbide respecting dumping of **polyol** have been withdrawn.

Canadian Restrictions on Clothing Imports: Canada announced May 29 that clothing imports during the 13 months from Nov. 30, 1976, to Dec. 31, 1977, will be limited by quotas set at 1975 levels of approximately 185 million garments. The quota level represents about a 34 percent roll-back from anticipated 1976 imports of 281 million garments. Canada indicated that the action was taken under the provisions of GATT Article XIX, which provides for the temporary imposition of import restrictions in certain cases where a domestic industry is suffering injury as a result of increased imports. Canadian clothing imports from the U.S. were valued at more than $71 million in 1976.





Exhibitors Busy In Iran

Brisk activity typified in these scenes from two late 1976 trade exhibitions in Iran has generated optimism that U.S. sales in that market, after slowing in recent months, will record a strong comeback in 1977. Exhibitors reported $2 million in floor sales, plus $64 million in 12-month projections. Clockwise, from top left, are three scenes from the Tehran Int'l Trade Fair's U.S. exhibition: Garrett diesel engine, Johns Manville items, and General Dynamics phone communications; followed by views from the SAHO heating, cooling and sanitation equipment show, featuring American Air Filter items, Pressure Vessels water heaters, and Atco Rubber products. Three shows are on the Tehran U.S. Trade Center spring schedule, on communications equipment, institutional furniture, and water resources, and several upcoming Commerce-assisted trade missions are planned for Tehran.

NETHERLANDS IS EXPECTED TO IMPROVE AS MARKET DESPITE SLOW RECOVERY

With the end of the recession more than a year ago there were hopes that the real GNP of the Netherlands would grow by 4.5 percent in 1976, unemployment would drop and inflation moderate. Instead the economic upturn has slowed and unemployment and inflation still bedevil the economy, reports the U.S. Embassy in The Hague.

Nevertheless, real GNP was expected to grow about 3.5 percent last year and 4 percent this year. The government's budget for 1977 aims to improve the business climate. With parliamentary elections scheduled in May, the budget and controversial legislation on excess profits sharing and works councils are being debated fully, and there is at least the possibility of change in long-term economic direction. The already good outlook for U.S. exports to the Netherlands is expected to improve despite the hesitant Dutch economic recovery.

The government's budget for this year attempts to create jobs by offering business a better investment climate. There is widespread recognition that most unemployment now is not the result of the downturn in the business cycle. Some is regional and some is attributable to the historic fact that the postwar housing shortage pretty well ended in 1974. A larger part, however, results from the effort by industry to reduce the labor component of production costs by concentrating investment on labor-saving machinery. Industry's profits have declined sharply in recent years as real labor costs increased, productivity declined and government took larger shares of GNP.

Faced with these facts, the government in its new budget is cutting back on original plans for its own expenditures by limiting the growth of the collective sector to an additional 1 percent of GNP. Recognizing that the main cause of unemployment is a lack of investment, the government is trying to restore business confidence by providing direct subsidies for investment while seeking moderation in union wage demands. The government announced that it will establish a "Selective Investment Fund" effective April 1 to provide 15 billion guilders for stimulating investments over the next five years. To qualify, business would have to show that the investments would, among other things, be labor intensive, be "socially desirable" and not damage the environment. In the area of wage demands, the government proposes to improve the lot of lower paid workers rather than all wage earners across the board.

The reception by the unions has been mixed. The wage round being negotiated between the unions and management with government looking over their shoulder is the key to whether inflation can be restrained and profits restored.

NEAR ROTTERDAM—*This newly-expanded grain trans-shipment and storage depot is located in the Botlek port area.*

Elections this year

With parliamentary elections scheduled for May 25, debate on this year's budget has been more spirited than usual. Not only the opposition Liberals (who are conservative except in name) but also the Christian Democratic parties which participate in the government have attacked the government's proposals. Both the Liberals and Catholic People's Party (a coalition partner) have called the 1 percent restraint on collective sector growth inadequate.

While the Catholics sought a reduction to 0.7 percent, they kept to the government policy of concentrating effort on reducing unemployment and inflation by limiting increases in expected real personal incomes. The Liberals went further and prepared a budget offering a distinct alternative based on more classical tax incentives and increasing real personal income as the basis for economic recovery while holding the collective sector to its present level.

Although the debate is unlikely to alter the basic 1 percent formula for this year's budget, the political maneuverings before the election may lead to amendments by parliament to two controversial bills. One is the draft Excess Profits Sharing Act, under which companies liable to taxation in the Netherlands would have to pay 10 percent of any excess profit earned in 1975 into a national fund to be administered by the trade unions. The percentage would rise to 12 for 1976 and by 2 points each year thereafter, reaching a ceiling of 18 in 1979. Excess profit is defined in the bill as that portion of a company's earnings which exceeds a reasonable rate of return (tentatively defined as the government's long-term borrowing rate plus a 2 percent risk premium). Adverse business reaction has caused the government to hesitate, and the trade unions have indicated willingness to consider some compromise on the issue of their control of the fund.

Another controversial bill before parliament seeks to amend the Works Councils Act of 1971 by no longer allowing a company's managing director to be a member of the works council. The body would be made up instead only of workers' elected representatives and be authorized to make recommendations to management.

The country's basic strengths

Despite introduction of the bills on excess profits sharing and works councils, the Netherlands still rates high among international business executives because of its location at the hub of Europe's transportation network as well as its historic role as a trading nation (exports are almost 40 percent of GNP). The Netherlands also enjoys an absence of social unrest and one of the lowest rates of work lost to strikes of any country in the OECD (although this is partially balanced by the high rate of absenteeism for sickness, approaching 9 percent of the workforce in 1976). Finally, revaluation of the German mark on Oct. 18 gives a fillip to Dutch exports to Germany, the country's major trading partner.

In 1975 U.S. exports to the Netherlands totaled $4.2 billion, and during the first half of 1976 they amounted to nearly $2.2 billion, a 5 percent increase over the same 1975 period. Non-agricultural exports increased 12.7 percent to $1.7 billion. As the Dutch economic recovery progresses, U.S. exports should continue to expand.

Best prospects for 1977 are offshore oil and gas drilling equipment, construction and mining equipment, heating and cooling machinery, industrial security equipment, mechanical handling equipment, food processing and packaging machinery, pulp and paper processing machinery, electro-medical instruments,

electric measuring and controlling instruments, printing and graphic arts equipment, and automotive garage and service equipment. The chemical and electrotechnical industries are expected to expand more rapidly than the economy as a whole until 1980, with annual growth rates of 6.5 and 5.8 percent, respectively, widening opportunities for U.S. exporters of chemical processing equipment, pumps, valves, compressors, pollution control instrumentation and equipment, laboratory instruments, electronic production and test equipment, and electronic components.

Looking for high technology

Because of high labor costs, the Dutch Government expects business to concentrate investment on labor-saving equipment and systems. This could favor American industrial exports embodying high technology, such as computers and peripheral equipment, electronic calculators, accounting devices and banking equipment, inventory and cash flow control systems, and advanced production machinery for the metal and food processing and packaging industries.

As the average Dutchman has become more receptive to U.S. styles and tastes and aware of the quality and reasonable prices of U.S. products, there has been rapid sales growth of such U.S. consumer goods as apparel, cosmetics and toilet articles, kitchenware, consumer durables, furniture, do-it-yourself articles, decorator items, consumer electronics and optics, cameras and photographic equipment, and sports and leisuretime products. Vending and slot machines are also selling well.

With U.S. prices competitive, the American exporter interested in diversifying his market and increasing profits will find opportunities in the Netherlands, a nation of international traders. He should bear in mind, however, that the Dutch importer expects the same service, support, prompt attention to inquiries and access to supply as U.S. customers.

At the end of 1975 the book value of American investment in the Netherlands was about $3,386 million, whereas Dutch investment in the United States stood at $3,650 million. More than half the U.S. investment is in the petroleum and chemical industries. It is likely that some prospective foreign investors will have a more cautious attitude toward the Netherlands until parliament acts on excess profits sharing and the amendments of the Works Councils Act of 1971. On the positive side, the levies under the Selective Investment Regulations of 1973, which discouraged investment in the populous western region of the Netherlands, were suspended in June 1976, but other provisions of the law remain in effect.

NEW ZEALAND'S MEASURES TO BALANCE THE ECONOMY BITE INTO IMPORT VOLUME

New Zealand is currently suffering the effects of a severe imbalance of trade, according to Joseph C. Wilson, Commercial Attache at the U.S. Embassy in Wellington.

Figures for the year ending June 30, 1976, emphasize this adverse balance. Total exports for the period were valued at $2.37 billion (f.o.b.) vs. imports of $2.93 billion (c.i.f.). Although this is a considerable improvement over the previous year (export earnings were up 47.1 percent against a 6 percent increase in the import bill), the net gap of $556 million, when added to a substantial and growing adverse balance in the invisibles accounts, indicates that a policy of reducing imports will continue to be necessary during 1977.

Current government policies, including the import licensing program and mandatory deposits imposed on certain classes of imported items, have already bitten fairly deeply into the volume (but not the value) of the country's imports. Imports of consumer goods and luxury items are already reduced, and even such traditionally important "big-ticket items" as earthmoving machinery and office equipment are temporarily restricted by present policy.

Government actions

The various economic measures which the government has adopted should help restore a better balance in the economy during 1977. These include a decrease in government (especially deficit) spending, sales taxes designed to reduce the flow of imported goods and components, mandatory taxes tailored to reduce the flow of import deposits on certain categories of imports, and a freeze on wages and prices.

Concurrently, the New Zealand Government is conducting an active export promotion drive. Strong indications that there is significant economic recovery in most of New Zealand's traditional markets and good prospects of expanding exports to newer markets, i.e., the Middle East and Southeast Asia, will undoubtedly help maintain and hopefully improve demand for New Zealand's pastoral products and its growing list of manufactured products, especially those of the forest products industry. This welcome trend will unfortunately be offset by hefty increases in the cost of imported petroleum products, raw materials and machinery vital to the country's production.

The government is encouraging and supporting the manufacturing sector in its efforts to expand and diversify production for export. This is generally recognized as vital for the country to escape from its traditional role as a supplier of agricultural products, which are subject to violent fluctuations in demand and price on the world market. Manufactured products, which have increased export earnings significantly during recent years, earned $541 million (including $197 million of forest products) in the year ending June 30, 1976. This represents 23 percent of total export earnings. (There is optimism that there is substantial room for further growth in this area.)

The FY77 budget emphasizes incentives to industry such as investment and depreciation allowances for new plants to increase production for export. Accordingly, the best opportunities for U.S. exporters during the coming year will be as suppliers of materials, machinery, equipment and spares which will contribute to improved productivity in export-oriented industry. Industries such as food processing (including the fishing industry), forest products (including heavy equipment for logging), and support industries such as electric power generation and the processing, distribution and utilization of natural gas, should offer good sales prospects.

Industrial materials having worthwhile sales potential include industrial chemicals, fertilizers, insecticides, fungicides, pharmaceutical compounds, metals and plastic materials. New Zealand's emphasis on increasing production for export will insure a market for machine tools, measuring and control instruments and apparatus for its metal fabricating plants. Also needed are raw and semi-processed materials for its plastics industry, and textile and leather machinery.

There are indications that office equipment and computer hardware will continue to find a good reception. There is also a strong possibility that there will be an improved market for medical and optical equipment which incorporates the latest technological developments.

U.S. products well received

U.S. products have established an excellent reputation in the market and during the 1974-1976 period accounted for 12-13 percent of New Zealand's total imports. Wilson expects competition among overseas suppliers to be particularly keen during 1977, as exporters struggle to hold on to their market shares. It is imperative that U.S. companies watch market developments closely during coming months. Many American products have improved their market potential during recent years because of a) improved technology, b) more competitive price, c) improved delivery schedules vis-a-vis other overseas suppliers, and d) phasing out of the Commonwealth tariff preference, which will disappear in July 1977 on virtually all items the United

Kingdom exports to New Zealand.

Firms already having New Zealand agents or distributors should maintain close contact with the nearest U.S. Department of Commerce District Office and also with their agents in order to take advantage of developments which may enhance the sales prospects of their products. Firms not having agents should request Department of Commerce assistance in locating a suitable firm to represent them. Wilson cautions U.S. companies not to consider automatic the appointment of Australasian agents to handle both New Zealand and Australia. Although in some cases such an arrangement will work effectively, there are a significant number of instances in which failure to have a resident New Zealand agent has resulted in lost sales.

Major products and developments

- **Forest Products:** A Forestry Development Council has recommended to the government a long-term development plan to reach an annual total wood supply of 35 million cubic meters in roundwood equivalent within the next 30 years. The recommendation calls for 70 percent of the annual production to be available for export, mainly as fully processed products. In addition, the government is examining proposals to establish a thermo-mechanical pulp mill based on the Kariori forest in the central part of the North Island and also utilizing the residues of established mills.
- **Natural Gas:** Construction of a platform-to-shore pipeline and more than 200 miles of onshore pipelines to two separate power stations has begun. These projects are part of the development of the mammoth Maui natural gas field located off the west coast of the North Island. Present plans call for the gas from this field to be used for electrical power generation. Support projects should present a worthwhile opportunity for the sale of transmission equipment over the short term and also long-term prospects for the sale of a variety of equipment for commercial and home use of natural gas.
- **Steel:** New Zealand Steel Ltd., an Auckland manufacturer of steel sheet, billets and galvanized and plain pipe, and an exporter of the ironsand upon which its manufacturing is based, is exploring the economics of long-term development and expansion plans which would include establishment of hot and cold rolling facilities and a substantial increase in capacity, bringing total production to a minimum of 450,000 tons annually. Initial indications are that development would take between 10 and 15 years, at a cost, in current terms, of $400 million.
- **Electrical Equipment:** New Zealand manufacturers of transformers and switchgear are planning to extend their range to include equipment currently being imported. The introduction of modular switchgear has reportedly proved popular.
- **Petrochemicals:** Since May 1974 an interdepartmental committee has been studying the feasibility of establishing a large petrochemical plant using natural gas from the Maui offshore field as a feedstock. A preliminary report submitted to the government in September 1976 identifies ammonia/urea and chemical methanol as having the best potential. Estimates on the cost of alternative plants range from $48 million for a small urea plant to $120 million for a methanol plant.
- **Sugar Beets:** The government plans to employ specialist consultants to assess the viability of establishing a sugar beet industry in the South Island.
- **Power:** The Electricity Department is studying plans for a large thermal power plant to be built in the Auckland area. Capacity under consideration is 1400 MW. The most recent cost figures available are those of December 1975, when it was estimated that the total would be $464 million.
- **Fishing:** There are indications that New Zealand will extend its fishing industry substantially and plans to call for the purchase of large fishing boats from overseas suppliers. Long-range planning could mean opportunities for the sale of fish processing and canning plant equipment.
- **Carpetry:** The New Zealand carpet industry is about to adopt new technical advances recently developed for jet dyeing printed carpeting. To assure more efficient utilization of the expensive equipment incorporating this technique, the government is urging New Zealand carpet manufacturers to form a consortium to share in its use. Utilization of these new technological developments in carpet printing could well strengthen the competitiveness of this important New Zealand industry and, in turn, improve the market for U.S. manufactures of both primary and ancillary carpet manufacturing and finishing equipment. As newer developments in the carpet industry become available, for example more advanced jet dyeing techniques perhaps using more economical methods, the New Zealand industry could prove a good continuing and expanding market.

GUATEMALA COMES BACK WITH SOLID PERFORMANCE DESPITE QUAKE DAMAGE

The Guatemalan economy has strong prospects for 1977, according to the U.S. Embassy there. Gross national product grew an estimated 7-9 percent last year, a sharp increase over the 1 percent growth of 1975, which reflected poor crop conditions and a world recession.

The major earthquake which hit Guatemala last February caused severe damage in many villages and high loss of life. But, other than manageable infrastructure losses, productivity capacity was lightly affected. Last year export prices for sugar dropped, but prices of other agricultural commodities, including coffee, cotton, bananas and tobacco, strengthened or remained firm. Import price increases reflected a lower rate of inflation in industrial countries. Capital flows, including extraordinary earthquake-related credits, turned the balance of payments positive. Foreign currency reserves have increased and the quetzal is strong.

The United States has always been Guatemala's major trading partner, and for the last several years, the U.S. share of total Guatemalan imports has grown slightly, reaching 34 percent in 1975, or $250 million. If total imports reached $1,060 million in 1976, as predicted by the Central Bank, and the U.S. share stayed the same, imports from the United States surged to about $360 million. Figures for the first six months of 1976 show imports from the United States reached $175 million, up 56 percent from the same period in 1975. This was far and away the largest percent increase of any country in Latin American and makes Guatemala the tenth largest U.S. market in the hemisphere.

Given the proximity and availability of U.S. goods and services needed for reconstruction, the U.S. share of imports is likely to increase even further. Opportunities for U.S. exporters of construction materials, machinery, pre-fab houses, and construction firms are numerous. For two years duty-free importation of certain construction materials (including cement of which there is a serious shortage) is allowed, as well as pre-fab houses valued at less than $8,000 c.i.f.

Market potential looks good

The market potential in Guatemala for several other American product lines looks very good. Strong earnings for coffee and cotton growers combined with the prospect of sustained high prices insures a growing demand for agricultural machinery, fertilizer, insecticides, etc. An estimated $90 million investment in new health facilities is planned by the Ministry of Health, the Social Security Institute and the Guatemalan Army. Altogether, the projects of these three institutions call for from five to ten new hospitals in Guatemala City and an en-

tire network of small hospitals, clinics and health posts in rural areas. Needed will be design and construction services and a vast amount of medical equipment which American firms could supply.

Construction has begun on two hydroelectric projects. The largest, Chixoy, is to generate 300 megawatts, starting in 1981. Bids for construction of the dam and tunnel for Aguacapa have been annulled by the government; thus, U.S. construction companies that had not submitted bids may enter the competition. Prequalification for the Chixoy project has already been closed. A third power generation project, the 30 MW Moyuta geothermal scheme, is still in the exploratory drilling stage.

The government is now enlarging the telephone system by 60,000 lines and an even larger expansion is expected to begin in 1978. The Municipality of Guatemala City will soon begin digging a massive network of collector sewers, leading to construction of the city's first sewage treatment plant in 1978-79.

Other major projects of the government include plans to purchase new locomotives, rolling stock and replace large segments of the old narrow gauge track of the national railroad, rebuild part of the dock at Puerto Barrios, expand the port at Santo Tomas de Castilla to handle containers and bulk cargo, build new secondary schools and repair highways. All this follows the government's announced goal of proceeding with development plans while rebuilding.

Oil search pays off

Probably the development with the greatest impact for U.S. business is what looks like a boom in oil exploration. Regulations are currently being written to implement a new law governing oil exploration and exploitation under production-sharing contracts. Once the regulations are published, the government intends to put five exploration tracts of 200,000 hectares or less up for bid. Two companies are currently drilling under the old petroleum laws, and one has struck oil on the last four holes. That company has announced that it has found oil in commercial quantities and that it is planning a pipeline to transport the petroleum from the wells in northern Alta Verapaz Department to the Caribbean coast.

Guatemala is classified as one of the beneficiary developing countries under the U.S. Generalized System of Preferences, presenting new opportunities for U.S. importers and investors. More than 100 Guatemalan products exported to the United States in 1975 which previously paid duty, are now entering the United States duty-free. One American firm is now growing, and shipping to the United States, by air, duty-free fresh vegetables.

AT WORK IN GUATEMALA—*Pictured is a view of one of many small agricultural cooperatives in Guatemala that have received Inter-American Development Bank funds under Bank-financed farm credit programs (IDB photo).*

Guatemala could produce and export many more products which are granted duty-free treatment under the GSP.

Since many sales opportunities in Guatemala involve public procurement, a word about bidding procedures is in order. All Guatemalan Government purchases over $3,000 are acquired through public bidding unless the government declares that a project is an emergency. The period in which bids may be filed, however, is often quite limited, occasionally precluding participation from the United States. Frequent contact with the Guatemalan market is thus a requisite for doing business there.

In addition, because government agencies often specify that prequalification documents for bids can only be obtained in exchange for large amounts of blank paper, the agencies will not mail them to requesting foreign firms. Therefore, it is best to appoint a local representative, not only to obtain these documents, but also to prepare bids.

Receptive to investment

Guatemala traditionally has been and remains receptive to foreign investment. Foreign capital stands on the same footing as domestic capital and both practice and law support free enterprise. There are over a hundred companies in Guatemala which have U.S. equity participation but very few of them are 100 percent U.S.-owned subsidiaries. Joint ventures with local partners are the normal practice and enjoy certain tax advantages over companies which are 100 percent foreign owned. Currently, Guatemalan investors are looking for U.S. capital and expertise to initiate construction firms and cement plants.

Many Guatemalan firms have licensing arrangements with U.S. firms since U.S. brands are known and respected here.

Regulations governing fiscal incentives for new industries were written in accordance with the 1960 Central American Common Market Treaty which coordinates investment policies in Central America. Representatives of the Central American governments have completed a preliminary draft of a new treaty which would modify these policies and thereby alter the fiscal incentives. The preliminary draft indicates that the governments intend to exercise greater control over the type and location of new industries in an effort to decentralize and program rational industrial development in order to maximize economies of scale. The draft clearly demonstrates that foreign investment will still be considered favorably and that approved investments will be granted some import duty exonerations and tax relief, though fiscal sacrifices by government will be kept within reasonable limits.

It is unclear how many of the articles of the proposed draft will be included in the final draft and what year, if ever, the treaty to restructure the Common Market will be promulgated and ratified. Nonetheless, future investors should keep informed of the progress of the treaty since it could affect their taxes, benefits and operating conditions.

Would-be investors should also be aware that the Government of Guatemala has in the past and is still controlling the prices of some industrial products to counter inflation. Firms that raise prices without government authorization run the risk of losing their investment incentives.

Dominican Stability Aided Economy, But Power Ills Hurt Nation's Progress

Political stability in the Dominican Republic continues under President Joaquin Balaguer, who is nearing the completion of a third four-year term, and this is a major factor in the country's economic progress, according to a recent assessment by the U.S. Embassy in Santo Domingo. Growth in real GNP is off in recent months, however, due in large degree to deterioration in the national electricity network.

During the period 1969 to 1974 the Dominican economy enjoyed one of the highest growth rates in the world, averaging an annual 10 percent increase in real GNP. This strong performance was fueled by political stability, a dynamic growth of exports, a deliberate policy on the part of the Dominican Government of restricting current budget expenditures while devoting heavy sums to capital investment for basic economic infrastructure, large external aid from U.S. and multilateral sources, and a favorable climate for private investment, both domestic and foreign.

Despite the debilitating effects of a severe drought in 1975, the Dominican economy, led by a record export figure of $893.8 million, still achieved a significant GNP growth of some 4.8 percent that year. At the beginning of 1976 the basic underlying stability of the Dominican political and economic structure, along with a predictable recovery of the agriculture sector, augured well for a continued significant economic expansion, notwithstanding an anticipated decline in the terms of trade.

Adverse developments

Adverse developments have in the meantime altered the picture, and thus it appears now that there will be little, if any, economic growth recorded for 1976. An increase of 2 percent is the most optimistic expectation. A sharp decline in sugar prices and the withholding of sugar from the international market for several months (now ended) led to a contraction in the economy. For the 12-month periods ending in March 1976 and in May 1976, money in circulation declined by 2.5 percent and 11.2 percent, respectively, partly as a result of reduced foreign exchange receipts. The Central Bank was able only in part to offset the contraction by its more liberal monetary policy.

Even more damaging to the economy was the plague of electric power outages that have affected all facets of Dominican life since last spring. Irregular outages during a third or more of the working day took a heavy toll in industry and commerce.

U.S. exports to the Dominican Republic for the first six months of 1976 were $227 million, compared to $230 million in 1975. During the first six months of 1976, total imports increased by 8.9 percent over the comparable period in 1975. Assuming that the continuing electricity shortages caused a lessened need to import capital and intermediate goods, a 7 percent import growth rate for 1976 appears likely when the final total for the year is recorded.

What new policies or measures may be formulated to confront a possible balance-of-payments deficit are unclear at the moment. There has been a recent changeover of the top leadership, including the Governor, at the Central Bank. Some adjustments may be made in both fiscal and monetary policy, but there have been no moves thus far to institute new import restrictions. A short-term policy tool which may be increasingly relied upon to meet a balance-of-payments deficit is increased borrowings on the international money markets, perhaps from commercial banks as well as from the International Monetary Fund. With net foreign exchange reserves equivalent to the value of less than three weeks' worth of imports at the end of 1975, there is not much readily available cushion. For years, however, the Dominican Republic has operated on a narrow margin of foreign exchange reserves.

Several Dominican Government policies are designed to reduce inflation, which is at the 10-12 percent level. There are price controls on various foods and other consumer goods. Special export taxes on coffee and cocoa exports were established in 1975 as the world price of these commodities went up sharply. Wages for Government workers have generally remained frozen.

Opportunities for construction activity in the Dominican Republic remain attractive. Loews and Sheraton are nearing completion of first-class hotels in Santo Domingo. Placing high priority on increasing foreign-exchange earnings from tourism, the Dominican Government gives various incentives to tourism development. Attractions for tourism include the pleasant climate, excellent beaches, proximity to the U.S., and relatively low prices.

Cruise ships are stopping increasingly at Santo Domingo and Puerto Plata. A contract worth above $4 million to improve the docking facilities for cruise ships at Santo Domingo has been signed. Gulf & Western, with four hotels in the country, plans to build a $20 million tourist complex at Bayahibe, east of La Romana. Club Mediterranee has finalized plans for a $14 million resort in Punta Cana, at the eastern-most edge of the island.

Infrastructure is being laid out for a two-part tourism project on the north coast near Puerto Plata and Rio San Juan, financed in part by a World Bank loan. Various U.S. firms will be operating hotels in the area. Plans exist to build a terminal and support facilities for an already completed airport runway near Puerto Plata designed to handle Boeing 747's. The Dominican Government has also begun to move ahead on another tourism project on the south coast near Boca Chica with likely Inter-American Development Bank (IDB) financing.

Work on the modernization of the port of Haina with $35.5 million financing from the IDB and $12 million from the Dominican Government should be underway. Frederick R. Harris was scheduled to submit its final design version of the $150-million four-lane highway between Santo Domingo and Santiago.

The state electric corporation was nearing completion of the installation of two 80 Megawatt units at Haina under GE supervision, and has received Export-Import Bank financing for a $47 million project involving a 116 MW thermal unit, transmission lines, and substations which should begin operation in the latter half of 1979. Four other 116 MW units are scheduled to be completed by 1984 with related support equipment. The multiple Tavera-Bao dam project is being considered for some $36.7 million of IDB funding.

Also being planned are other smaller dams such as Mao, Chavon, Sunate, Haina, and Duey; irrigation systems including the Yaque del Norte project; airports; highways, hospitals; breakwaters; docks; sugar mill modernization of State-owned CEA, which produces more than 60 percent of the country's sugar; telephone expansion by the Canadian subsidiary of GT&E; and parking garages for the City of Santo Domingo.

Industrial inducements

Three Dominican industrial free zones, where materials are brought in duty-free, are processed by local labor, and re-exported duty-free, continue to expand. These zones help to increase employment and technological development of the country. Foreign-owned plants in these zones are not subject to income taxes and pay workers slightly less. Existing zones at La Romana, San Pedro de Macoris, and Santiago have over 40 plants and employ above 4,000 workers. Haina (which will become the main commercial port for Santo Domingo) has plans for a zone as well.

Under special circumstances, an individual factory outside the established zones may be declared a free-zone enterprise. Haina, Santiago, and Herrera (western part of Santo Domingo) also have industrial parks in varying stages of development.

No major air or ship cargo rate or route changes were announced during the first half of 1976. A Port Authority was created for the planned Haina modernization program. The Dominican Republic has been participating as an observer in the meetings of the new Caribbean shipping line NAMUCAR which is to be owned and operated jointly by various governments of the area.

American products are quite competitive with other foreign goods, and are prized in the Dominican market for their quality, quick delivery, good follow-up servicing, and easy accessibility to spare parts.

The construction activity mentioned above offers important opportunities in materials, equipment, and consulting and supervisory services. The number of service contracts for feasibility studies design, and engineering will be high.

Direct sales opportunities for U.S. suppliers include pumps and centrifuges, valves, irrigation systems, water supply and sewage equipment, agricultural machinery and equipment, motor vehicles, oils and fats, food processing and packaging machinery, construction supplies and equipment, chemicals, pharmaceuticals, household appliances, office equipment and supplies, paper and related products, small tools, hardware items, electronic gear, and electric generators. Other items demanded include graphic supplies, health care industries equipment and instrumentation, metal working machinery, communications gear, hotel and restaurant furnishings and supplies, cooling and refrigeration equipment, sport and leisure goods, and textiles.

Growing Foreign Assistance Stimulating Haiti Economy; U.S. Has Major Import Role

A rapidly growing foreign assistance effort is providing important stimulus currently to the economy of Haiti, according to an economic situation report by the U.S. Embassy in Port-au-Prince.

Haiti's balance of payments deficit became serious in late 1975, when foreign currency reserves were exhausted and the growing imbalance in the trade account became a major problem. But things improved in 1976 and the final balance of payments total should probably reflect a situation close to equilibrium.

Prices increased by more than 16 percent in 1975, probably by about 20 percent last year, and are expected to rise in that same range in 1977, according to the Embassy estimate.

Coffee crop is vital

Coffee is the most important crop in Haiti. It is the major source of income for about 1.5 million people and provides an average of one-third of the country's export income.

Coffee exports increased in the 1975-76 season from 293,000 bags to 441,000 bags; exports from the 1976-77 harvest are expected to be about 425,000 bags. Other cash crops—sugar, cocoa, and sisal—have been declining for several years and the trend is expected to continue. Light manufacturing is the most dynamic industry in Haiti and continues to outperform the rest of the economy. Growth in 1976 may approach 8 percent.

U.S. exports to Haiti increased by 24 percent in 1975 to $57.6 million. Shipments should be of similar proportions in 1976 and 1977, although the U.S. share of the market may drop from the 52.8 percent of 1975. Improvement or even retention of that large share will depend largely upon the success of American firms bidding externally financed infrastructure projects.

The limited budget resources of the Haitian Government limit possibilities for direct sales of U.S. goods to the government. The Haitian Government has no central purchasing agency and most normal purchases are made by the department concerned. Purchases are usually made directly from suppliers or their agents, although competitive bids usually are solicited for larger purchases. Equipment required for the larger, internationally financed projects is almost always obtained after seeking competitive proposals.

The government signed copper exploration-production-export contracts with Pen neroya (France) and Kennecott (U.S.) in early 1976. Exploration is well under way, although it is too early to predict whether there are commercially exploitable reserves. Similarly, oil exploration contracts were signed with an American and a Venezuelan firm in the summer. Preliminary drilling is expected to start in early 1977.

The manufacturing and construction industries have been growing at impressive rates since 1971. Manufacturing now accounts for 12 percent of domestic product and has been growing by an average of 6.8 percent since 1971. Some production is aimed at the domestic market but the biggest gainers are export oriented firms. About 80 of 150 plants processing and assembling imported components for export are owned or partly owned by Americans. Production ranges from baseballs, belts, and stuffed toys to electric motors, connectors, and electronic components. Continued rapid growth is expected.

The construction industry has been growing by about 18 percent a year since 1971 and the outlook is good. Infrastructure projects financed by external assistance have been the main stimulus. Housing construction in Port-au-Prince has been another factor.

Cement production has been increasing by about 21 percent per year since 1971. The annual capacity of Haiti's cement plant grew from 80,000 to 300,000 tons.

Lack of transportation has been a bottleneck for years. However, several foreign assistance projects are making major improvements. The World Bank is financing the reconstruction of the road to Cap Haitien on the north coast. The French-financed road to Jacmel was opened in October, 1976. Ongoing construction of the South Road to Les Cayes is being financed by the Interamerican Development Bank. The U.S. Agency for International Development is financing the construction of several kilometers of farm-to-market roads.

Investment considerations

Opportunities for investment in Haiti are limited by the general lack of infrastructure, services, and resources. American businessmen cite the shortages of electricity, lack of telephone service in the industrial area, and lack of government services as major business impediments. Progress in improving the institutional framework continues. The new minerals law was instrumental in the achievement of the two copper and two petroleum exploration agreements in 1976. A revised banking code is expected shortly and may help domestic capital formation.

The improved road network plus improvements in the country's irrigation systems should help to increase agricultural output and provide opportunities for the processing of food crops. Investment opportunities in agricultural production are limited by the restrictive provisions of the land law and the acute overpopulation in productive areas.

Sanitation and health are major problems particularly in rural areas. There is an average of one hospital bed per 1,300 inhabitants but most hospitals are in the cities. Unemployment and underemployment are major problems. Less than 20 percent of the population is literate mainly because there are few schools in the rural areas.

The supply of low-cost labor will continue to give Haiti a comparative advantage in the manufacturing sector. With the exception of the garment industry, which is dependent on access to the controlled U.S. import market, prospects for continued expansion appear good. Electronic component assembly, products assembled by sewing, and the manufacture of special furniture products, probably will remain the most profitable.

Yemen Continues Expansion; Favorable Exchange Position Offers Marketing Opportunity

The Yemen Arab Republic is enjoying continued economic expansion, although it remains one of the least developed countries of the world with a per capita income in 1976 estimated at $137. Although its population of over 6 million makes it the most populous country of the Arabian Peninsula, rapid economic development is constrained by both limited absorptive capacity and a narrow resource base, according to the U.S. Embassy in Sana.

Agriculture still accounts for two-thirds of GDP and virtually all exports. With the exception of rock salt, no mineral resources of commercial value have as yet been exploited. No oil is produced, but exploration by Shell continues in the Red Sea. The first well was drilled in late 1976.

Economic transformation

Due to the lack of natural resources, industry was largely non-existent before 1970 and still accounts for only 2-3 percent of GDP. A gradual transformation of the economy is occurring, however, and large-scale worker remittances and foreign aid have fueled the rapid growth evident since 1972 in construction, light manufacturing, transport, trade, banking, and expansion of government services.

The Yemen Government has undertaken a substantial developmental program and is attempting to create modern institutions and to train people in the skills necessary to fully utilize the country's economic potential. Nevertheless, the challenges facing the government are considerable. With an increase in money supply of almost 60 percent during the past year alone, the inflationary spiral which began in 1973 continues to surge upward (37 percent in FY76). The balance of trade deficit is still increasing ($362 million in FY76), and the main harbor at Hodeida has joined the list of overburdened Middle East ports with unloading delays now approaching three months.

Although the Yemen presently enjoys a modest balance of payments surplus due to the high remittance flow, in the immediate future more government attention must be focused on increasing the scope of domestic industry and on training and retaining the skilled and semi-skilled labor necessary to run it.

The Yemen presents a marketing opportunity for U.S. firms which should not be overlooked or underestimated. A strong foreign exchange posture—annually renewed by remittances from abroad—is an additional factor of encouragement for investment by United States companies and the sale of American products.

The Yemen Government's active development program is attempting to mobilize both domestic resources and increasing amounts of multilateral and bilateral foreign assistance ($150 million a year). Large foreign assistance programs are currently being undertaken by the World Bank, the United Nations, the Kuwait Fund, and the Arab Fund for Economic and Social Development, as well as the United States, Germany, Saudi Arabia, the United Arab Emirates and the People's Republic of China. Implementation of the Yemen's first Three-Year Plan was completed in 1976, and the government is expected to announce a new and expanded Five-Year Plan in mid-1977.

This plan will contain several commercial opportunities for U.S. firms wishing to bid on projects in agricultural development, road construction, water and sewerage development, electrification, port expansion and so forth. Where possible, tender information will be made available through the Commerce Department's Trade Opportunity Program (TOP).

Two recent Yemeni laws have a direct bearing on commercial activities by American companies in the Yemen. Under a 1976 decree regulating agencies and branches of foreign companies, agents of foreign companies are now required to hold Yemeni nationality. Branches of foreign firms must be established and registered in accordance with regulations that have been set by the Yemen Ministry of Economy.

Useful investment is encouraged

Investment is regulated by a liberal 1975 provision known as Law Number 18 which is specifically designed to encourage useful investment by foreign companies. Three types of investments are noted by Law Number 18—national, foreign and joint capital. Confiscation or nationalization of investments is specifically prohibited under the law without payment of just compensation to the owners.

Law Number 18 delineates four investment categories—industrial, agricultural, animal resources and tourism—each of which has an investment minimum which must be met before a given project can qualify for the law's concession. For instance, a joint capital project in the industrial sector requires an investment of only $125,000, while a joint capital tourism project requires an investment of $1.5 million.

Projects which have been issued investment permits by the Ministry of Economy are eligible for the following exemptions and concessions: a) a five-year exemption from payment of customs duties and import charges for all machinery, equipment, spare parts and—in the case of tourism projects—building materials; b) the above exemption period may be extended for up to three additional years with approval of the Council of Ministers; c) a 25 percent (c.i.f.) reduction of all taxes, customs duties, and import fees on all raw and primary products used or produced by a project for a period of five years.

The Investment Exemption Committee (chaired by the Minister of Economy) will determine the products included in this concession as well as the amount of the reduction itself; d) with approval of the Investment Exemptions Committee, industrial projects may be further exempted from all export taxes and production duties.

Copies of both the above laws in their English translations are available from the Commercial Section of the American Embassy at Sana.

Rwanda Suffers Typical Ills Of Developing Countries, But Some Progress Is Evident

Rwanda suffers from many of the ills commonly associated with developing countries: an economy based primarily on subsistence agriculture, a burgeoning population (the highest population density in Africa), insufficient budget receipts, limited commodity exports and heavy reliance on foreign assistance. The landlocked central African nation is additionally handicapped by its dependence on inadequate and occasionally politically-disrupted routes to the ports of Mombasa and Dar es Salaam, adds the U.S. Embassy in Kigali.

Nevertheless, the return of political stability following formation of the Second Republic, the implementation of a foreign policy which has improved former tense relations with immediate neighbors, the imposition of governmental discipline, and rapidly increasing foreign assistance (particularly in infrastructure) are providing a base for moderate economic improvement.

Looking at specific areas

Specific areas of the economy—particularly commodity exports and foreign assistance projects—are receiving considerable investment capital. Energy imports, inflation, consumer goods output and agricultural production are some of the problem areas. Higher petroleum and transport costs have been responsible for significant deterioration in the balance of payments current account, the effects of which have been offset, at least temporarily, by substantial capital inflows from foreign assistance. A growing debt servicing schedule is expected to

exert even greater pressure on external finances.

In spite of Rwanda's precarious development position, American investors and traders can find attractive business opportunities there if they are willing to improvise and be persistent. Traditional commercial tools of market surveys, consumer profiles, etc., are generally not available, and the lack of Rwandan familiarity with many United States business practices requires a patient approach.

Investment prospects

Rwanda is particularly interested in private investment. The Foreign Investment Code, under revision, is liberal, and both government and consumers are favorably disposed toward Americans. In November 1975, Rwanda became a member of the International Finance Corporation; membership provides investor services in the private sector, including project identification. Areas of possible interest include foreign assistance related projects such as road construction. The growing tourism industry could also be attractive to U.S. firms. However, Rwanda's isolation, limited paved road network, and lack of many amenities expected by today's traveler counsel installations on a modest scale.

American export sales opportunities continue to center on used clothing, and prospects for continued mid-term growth are good. In the longer term, Rwanda's embryonic textile industry will displace a portion of these sales. The United States continues to be Rwanda's largest customer, taking 49 percent of exports in 1975 through coffee, tea and pyrethrum purchases.

American firms providing technical services such as project management contracts (particularly in the agricultural sector, which is receiving major bilateral and multilateral attention) have opportunities. Other potential services include air shipment of key exports and imports in order to bypass difficult overland conditions. Air shipment is considered potentially profitable and experimental shipments of tea, pyrethrum, vegetables, flowers and even ores have occurred.

Hong Kong Admits U.S. Brandy

A law reducing the minimum strength of brandy permitted to be sold in Hong Kong from 43 to 40 percent alcoholic content was passed by the Legislative Council on Dec. 22. This act allows the sale of American brandy in Hong Kong effective immediately. Previously, a regulation prohibiting the importation of brandy below a certain proof level (85.6 U.S. proof) had denied entry of most U.S. brandy (80 U.S. proof).

Calendar For World Traders

Jan. 18—New York—World Trade Club meeting, presenting the Industrial Development Authority of Ireland. For information: Long Island Assn. of Commerce & Industry, Marylou Romano, 516-752-9600.

Jan. 18—New Albany, Ind.—Kentuckiana World Commerce Council meeting, Tommy Lancaster's Restaurant. Theme: Indiana Night.

Jan. 20—Memphis—Seminar on Venezuela, Cafe St. Clair. Sponsors: Mid-South Exporters Roundtable, Memphis Commerce District Office.

Jan. 24-28—New Orleans—Four special World Trade Institute meetings, International House: Jan. 24-25, Introduction to International Taxation; Jan. 25-26, Financial and Tax Aspects of International Shipping; Jan. 26-27, Fundamentals of Foreign Exchange; Jan. 27-28, Foreign Investment in U.S. Real Estate.

Jan. 24-28—Houston—Two special World Trade Institute meetings, World Trade Center: Jan. 24-28, Petroleum Tankship Operations; Jan. 26-28, Documentation Preparation for Import and Export.

Jan. 26—New York—International Executives Association luncheon meeting, Summit Hotel. Theme: U.S.-Middle East Trade.

Jan. 27-28—Los Angeles—2nd Annual World Economic Outlook Conference, Holiday Inn - Westwood. Sponsors: UCLA Business Forecasting Project, Economic Models Ltd. of London. Contact: UCLA Graduate School of Management, 213-825-1623.

Jan. 31—New York—Opening sessions of Certificate Program in Maritime Transportation, presented by Roosevelt Institute, evening adult education division of Seamen's Church Institute. For information: Pamela Sheard, 212-269-2710.

INTERNATIONAL BUSINESS REPORTS

Economic Growth in the Future: 1976-2000. November 1976. Published by McGraw-Hill. 423pp. $19.50.

Factual data and forecasts, including an analysis of arguments on both sides of the growth debate, are presented in this study collected by the Edison Electric Institute of New York, the principal national association of investor-owned electric utility companies.

Write: McGraw-Hill Book Co., 1221 Avenue of the Americas, New York, N.Y. 10020.

How to Get the Job You Want Overseas. Published by Pilot Books. $2.50.

This paperback shows how to prepare a resume for an overseas job, describes tax implications of overseas employment, lists employment agencies specializing in overseas positions, discusses overseas jobs with the government and the federal agencies which offer them, and concludes with a special section for teachers interested in work abroad.

Write: Pilot Books, 347 Fifth Ave., New York, N.Y. 10016.

The Export Credit Financing Systems in OECD Member Countries. Published by the Organization for Economic Cooperation and Development. 140pp. $5.50.

Twenty-one OECD member countries have facilities for financing or guaranteeing export credits which, directly or indirectly, are subject to the control of or are supported by governmental or paragovernmental bodies. Descriptions of these schemes are contained in this publication. Information given for all the countries includes a brief summary of developments in official support of and intervention in export credit financing, followed by a description of official insurance and financing institutions. The study brings out the degree of official support in the financing of export credits and of preferential financing of these credits. It also estimates the extent of government-backed financing of export credits in relation to the overall exports of each country.

Write: OECD Publications Center, Suite 1207, 1750 Penn. Ave. NW., Washington, D.C. 20006.

'Trade Lists' for Kuwait and Sudan. Published by the U.S. Department of Commerce. $3 each.

Includes names and addresses of prospective import agents, distributors and direct-use purchasers in subject countries. Firms are listed under appropriate Standard Industrial Classification (SIC) codes indicating products they handle or services they provide.

Write: U.S. Department of Commerce, DIB / 1033-EID / TL, Washington, D.C. 20230, or any Commerce District Office.

Worldwide Business Opportunities

International trade specialists in the Department of Commerce and Foreign Service Officers in the U.S. Embassies and Consulates around the world are continually developing specific commercial opportunities through which American companies can find buyers, agents, partners or investors abroad. One of the major means for communicating these opportunities promptly and accurately to the U.S. business community is through the columns of this magazine.

The section that follows presents details about licensing and joint venture proposals, opportunities to sell to foreign enterprises and appoint agents, visits by foreign buyers and officials, and major construction and expansion projects.

Licensing, Investment Abroad

Licensing and investment proposals from foreign firms are listed in these columns. Specific product interests in each proposal are highlighted in bold type to facilitate identification and each proposal is preceded by the appropriate four-digit product number taken from the Standard Industrial Classification (SIC) Manual.

Background information on opportunities abroad and assistance on overseas investments are available from the Overseas Products and Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. "P" numbers should be used when responding to any of the specific proposals listed.

WTDR indicates that a World Traders Data Report containing financial and background information on the foreign firm is available for $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230, or from any Commerce District Office.

OPIC indicates that the country involved is eligible for investment insurance coverage and financing from the Overseas Private Investment Corporation. Information regarding applicable coverage may be obtained from OPIC, Washington, D.C. 20527.

JAPAN—Firm seeks licenses, advanced technology for **assessing environment impact on and disruption of ecological systems in rivers, lakes, ponds and oceans, as well as reducing water pollution and environmental disruption.** Is leading manufacturer of water and sewage treatment equipment in Japan. Has sales offices in seven major Japanese cities, employs about 1,200. Has licensing agreements with several foreign companies. Ichiro Yoshihara, Pres., Ebara-Infilco Co., Ltd., Palaceside Bldg., 1-1, Hitotsubashi 1-chome, Chiyoda-ku, Tokyo 100. P-77001.

MAURITIUS — Company interested in contacts with U.S. firms that will consider establishing industrial plants. Country offers as production base excellent advantages for export-oriented industries. Incentives include ten-year corporate tax holidays; 5-year dividend tax holidays; comparative economic labor factor cost; repatriation of original capital, profits; duty free import of raw materials, machinery; and residency permits. Contact: B. Gheewala, 41 C Queen Mary Ave., Foreal. P-77025. OPIC.

0251, 2016—GHANA—Financing in form of loan or investment capital desired to establish **poultry raising, processing facility.** Pre-feasibility report has received Ghanaian Government's approval. Capital Investment Board of Ghana will reportedly unconditionally guarantee repayment of all loans and arrange for transfer of profits to U.S. Name, address of person to contact for additional information is available from Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-77027. OPIC.

2092, 3731—ARGENTINA—Firm seeks arrangement with fishing company or importer to lease or purchase **fishing vessel with facilities for processing, including filleting and freezing, hake fish.** Established 1974, company plans to expand production to 35 m. t. daily. Additional information from Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-77035.

2400—2500—GERMANY—Firm has expressed interest in various forms of cooperation with U.S. companies. Is especially interested in licensing arrangements, including cross licensing, in making **furniture parts such as trestles, chairs.** Will also consider either direct purchases from American suppliers or representation of such similar parts. **White oak boards** and auxiliary products for furniture industry—such as **glue, abrasives, metal rolls, furniture moldings**—are also of interest. Current production lines include furniture hardware, stampings, other fabricated metal products. Company also distributes lumber products, auxiliary materials for furniture industry. Has sales of about $4 million and 100 employees. Dieter Peix, Herbert Gruettner Metallwarenfabrik, Foersterweg, D-4924 Barntrup. Germany. P-77013.

2400, 2500, 2600, 3400—UNITED KINGDOM—Seeks collaboration with U.S. manufacturers of **home improvement and do-it-yourself products.** Firm manufactures toys, home improvement and DIY products. Merchandise is marketed under several well-known trade names. Established 1946, employs 3,695. Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. WTDR. P-77028.

2426, 2431 — HONDURAS — Company seeks manufacturer of **furniture parts, wood moldings** for possible association as technical partner. Plant will be installed on north coast of country. Marco Aurelio Jerezano, Departamento de Proyectos, COHEDEFOR, Box 1378, Tegucigalpa, D.C. Please mark correspondence to firm "confidential." P-77036. OPIC.

2492—GREECE—Seeks joint venture to expand manufacture of **particleboard.** Also offers facilities for outright purchase and will consider proposals for construction of new projects on 50-acre site. Presently, firm produces about two million sq. m. of particleboard annually. Plant is valued at $1.2 million, located about 75 miles from Athens. Has railway connection and water, communication and power supplies. Employs 140. Rene Deffense, Dir. Gen., Panobel S.A., 5-7 Christou Lada St., Athens. Telephone, 3232854; telex, 021-6449. P-77014. OPIC.

2531—SAUDI ARABIA—Firm seeks U.S. partner to establish plant to manufacture **school furniture.** Initial production of 125,000 units of furniture annually is contemplated with option to increase capacity to 250,000 units. Plant site would be Riyadh Industrial Park. Estimated cost of project, $5.4 million; draft feasibility study has been prepared, submitted to Saudi Arabian Government. For additional information, contact Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-77015. OPIC.

2647—GERMANY—Seeks newest U.S. technology to manufacture **disposable paper towels and products for industrial cleaning, wiping, polishing.** Firm is 100% subsidiary of one of largest German paper processors which has 12,000 employees; annual sales, about $800 million. Franz Treutel, Sales Mgr., Apura GmbH, 6502 Mainz-Kostheim, PWA-Werk, Bruchstrasse 32-40. Telephone, 06143-608203; telex, 04 187 705 pwak d. P-77029.

3079—BELGIUM—Seeks licensing agreement and/or joint venture with U.S. firm to expand, diversify present product line which includes manufacture of **plastic cases for beer, milk, other beverages; household, office articles, garden furniture of plastic; custom molding of finished and semi-finished plastic products.** Processes used include injection, blowing and extrusion. Firm has 330 employees; had estimated sales of $17 million, 1976. Alain Rens, Chief Industrial Section, Con. Gen. of Belgium, 50 Rockefeller Plaza, Suite 1104, New York, N.Y. 10020. P-77026.

3079—BELGIUM—Seeks licenses from U.S. firm to manufacture **polyethylene insulation for pipe.** Firm is agent/distributor for number of pipeline products. G. J. Harford, POLYTEC SPRL, ave. Louise 177, Box 3- B-1050 Brussels. Telephone, 02/649.61.61. P-77039. Correspondence may be in English.

3315, 3317, 3079—IRAN—Individual, with

capital, seeks joint venture with U.S. firms to establish factory to manufacture **steel wire ropes, seamless pipes or plastic profiles (window and/or door frames).** Mahmood Serjoui, No. 10, Bonbast Nooshin, Koucheh Nikpay, Khiaban Sheikh Bahai, Isfahan. P-77038.

3315—NIGERIA—Interested in joint venture to manufacture **PVC insulated wire, cable in Bauchi State.** Seeks technology, capital, management. Feasibility study has been completed. Would export to Cameroon, Niger, Chad. Initial capacity is estimated at 1.4 million tons. A. Garba-Tora, Commercial Representative of State, 71 Tejuosho St., P.M.B. 3334, Surulere. P-77002.

3400, 3825—AUSTRIA—Large manufacturer of electronic measuring instruments has available excess **precision metalworking facilities** which can be used to produce parts, components for interested U.S. firm. Would also be interested in licensing arrangement provided products would fit its general sales program. Austrian firm, controlled by important German manufacturer of measuring equipment, has modern metalworking department, including turning, milling, stamping tools; 6- to 60-ton presses. Company, established 1922, employs 500 including 20 salesmen; has sales representation throughout Europe and in several other countries. Dipl. Ing. Adolf Schendl, Norma Messtechnik GmbH, Fickeysstrasse 1-11, A-1111 Vienna. P-77003.

3423, 3523, 3429—UNITED KINGDOM—Established company specializing in manufacture of **marine items, hand tools, garden machinery, light industrial products** seeks licensing arrangements to produce similar or allied products. Employs 150, has sales force of 25. Contact Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-77017.

3429, 3444—VENEZUELA—Small metal fabricator, presently producing steel tanks, textile machinery and air filters, interested in licensing and/or joint venture arrangement to manufacture **building hardware items, perforated steel floors and stair treads.** Seeks designs, production technology, management expertise. Ingeniero L. I. Membrilla, Asesoramiento Proyectos Industriales C.A., Urbanization Industrial San Vincente, Avenida Anton Phillips, Aptdo. 1247, Maracay, Estado Aragua. P-77016.

3433—AUSTRIA—Seeks licenses or joint venture to manufacture **waste incineration plants for urban waste with heat recovery and waste gas purification; incineration furnaces, rotary kilns, fluidized bed incinerators for burning industrial chemical waste; equipment to recover, recycle waste materials.** Would market in Europe, particularly Eastern Europe, Middle East, Africa. This large company specializes in construction of plants for gas production, gas separation, incineration, purification. Established 1919, employs 800. J. Fortel, Integral Engineering Industriebedarf GmbH, Grosse Neugasse 8, A-1041 Vienna. Telephone, 222/579681; telex, 1/2026. WTDR. P-77018.

3443—FRANCE—Manufacturer of metal works, welded wire mesh, plastic containers seeks licensing arrangements to manufacture **metal constructions such as tanks, boilers, smelters.** Interested in exporting these products to Africa and Middle East. Established 1970, employs 560, operates five plants. Has marketing areas outside France—Germany, Switzerland—with future expansion in United States; 1975 sales reported at $28 million. Mr. Geldreich, Gen. Mgr., Sotralentz, 24 rue du Professeur Froehlich, 67320 Drulingen. Telex, 880 470 F Soltralc; telephone, 88-006010. P-77004.

3531, 3564—INDIA—Seeks joint ventures or similar agreements to **manufacture grinding balls to crush coal and electrostatic precipitators.** Also interested in establishing plant to process **briquets** from coal dust. Products would be made for, and possibly near Talcher power plant in State of Orissa. K. C. Gantayat, Chmn., State Electricity Board, Bhubaneswar, Orissa. P-77005. OPIC.

3535—GERMANY—Seeks to exchange technology, cross licenses in following lines: **power operated chain hoists; bucket elevators with high outputs, great heights; horizontal conveyors such as scraper, plate conveyors.** Firm is Germany's leading manufacturer of chains; has 1,000 employees, exports 30% of its production to 90 countries; well managed, enjoys high international reputation. D. Rieger, Mgr. Export, or J. Mamsch, Export, RUD Kettenfabrik Rieger & Dietz GmbH, Postfach 1650, D-7080 Aalen 1. Telephone, 07361/5041; telex, 07 13837. P-77030.

3547—FRANCE—Large, diversified manufacturer seeks licenses to produce machinery for **finishing of steel products or for transformation of ferrous, nonferrous metals.** Machinery of interest includes shearing, splitting, winding machines, automatic and hot saws, little rolling mill housings, machines to bind bundles of metal bars, miscellaneous equipment for handling scrap metal, machines to turn over ingots. Company has five divisions, several plants, employs 4,500. Manufactures rail and passenger transportation equipment, machine tools, refrigeration and air conditioning equipment, boilers. Markets worldwide; annual sales, $138 million. Georges Alexeefe, Mechanics Dept., De Dietrich, Division Materiel Ferroviaire et Mecanique, Reichshoffen, 67110 Nieder Bronn-Les-Baines. Telex, 870850 F; telephone, 88-09-02-56. P-77019.

3551—MEXICO—Firm interested in joint venture to manufacture **specialized fruit, vegetable handling equipment.** Technical know-how, financial participation required. Company has annual sales of about $800,000. Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-77020.

3555—GERMANY — Small manufacturer of **specialized machinery for printing and business forms industry** wishes to exchange technology with U.S. firms. Company specializes in gravure press machinery for following: decorative printing for wood and furniture industry; textile and carpet industry; printing on plastics and other synthetics; advertising industry. Also specializes in continuous forms such as for telex, EKG, other medical applications; computer, other EDP; recording truck routing, performance. Of particular interest to U.S. firms might be machine manufactured by German company for imprinting wood design on paper for application to wood and wood-like products; and thermo-printing process for textiles. Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-77021.

3569 — GERMANY — Manufacturer of **steam generators, power plants, boilers, industrial process and environmental plants** seeks licensing, cross licensing agreements. Firm also makes boilers, heating equipment for solid, liquid, gaseous fuels for chemical, petrochemical, refining industries. Employs 1,000, markets in Europe. Dr. Eckart Hein, Standardkessel, Postfach 120403, 4100 Duisburg. Telex: 0855650. P-77031.

3569—MEXICO — Manufacturer of **process and air pollution equipment** is interested in licensing arrangement. Seeks technical know-how. Annual sales, around $1 million; reliable, well regarded firm. Ing. Octavio Carreto C., Avante, S.A. Ingenieros, Avenida Ejercito Nacional 752, Mexico 5, D.F. WTDR. P-77037.

3579—FRANCE—Seeks licenses to produce, market **electric stapling machines, check handling machines and marking devices.** Firm manufactures, distributes dating and marking machines, check protectors, other office machines. Employs 350 salesmen, 11 representatives. Marketing area covers France, French speaking African nations, several European countries. G. Dufour, Gen. Mgr., S.N.T.

Important Notice

Most member countries of the League of Arab States employ a secondary boycott against foreign firms which undertake certain specific types of business relationships with the State of Israel. The Commerce Department will not disseminate nor make available for inspection any tenders or trade opportunity documents which contain conditions intended to support such boycotts, or which are based on documents known to contain such provisions. Trade or investment opportunities published herein are not presently known to be subject to such conditions. However, it is possible that U.S. firms responding to opportunities from Arab countries may be asked at some stage of a transaction to participate in an Arab boycott-related restrictive trade practice as defined in the Department's Export Administration Regulations (15 CFR, Part 369 et. seq.).

Firms are reminded that it is the policy of the United States (a) to oppose restrictive trade practices or boycotts fostered or imposed by foreign countries against other countries friendly to the United States, and (b) to encourage and request U.S. concerns engaged in the export of articles, materials, supplies, or information to refuse to take any action, including the furnishing of information or the signing of agreements, which has the effect of furthering or supporting such restrictive trade practices or boycotts. Accordingly, U.S. concerns receiving such requests to participate in a restrictive trade practice or boycott are encouraged and requested to refuse to comply with them.

Firms are further reminded that U.S. concerns receiving requests to participate in a restrictive trade practice or boycott must report such request to the Department of Commerce in accordance with Section 369.4 of the above-cited regulations.

Megras, 42 ave. Aubert, 94300 Vicennes. P-77022.

3589—FRANCE—Seeks licenses to manufacture **microwave ovens and/or newly developed electric heating equipment.** Firm is subcontractor for producers of heating equipment. Also imports, distributes household appliances, cooking and electric heating apparatus. Employs 300. Marketing area is France, Belgium, Luxembourg, Netherlands. Very good reputation. Georges Lazard, Pres., Laco, 67340 Ingwiller. Telex, 890 262 F; telephone, 88-894000; cable, LACO-INGWILLER. P-77006.

3621—GERMANY—Interested in manufacturing **motor control centers** under license. Firm designs, manufactures, installs electrical equipment for industrial facilities. Specializes in power distribution, drive systems, process automation, industrial electronics. Employs 500. Mr. Reichmann, BEA- Baugesellschaft fuer elektrische Anlagen AG, Postfach 180260, 4000 Duesseldorf 13. P-77007.

3633, 3585—MALAYSIA—Seeks licenses to use design, names, trademarks of U.S. firms to manufacture **home appliances including: year round air conditioners under 135,000 BTU/HR, split system air conditioning units, room air conditioners and dehumidifiers, room air induction units, fully automatic washing machines, gas and electric dryers, and washer-dryer combinations.** Firm is a leading manufacturer of air conditioners, refrigerators in Malaysia; employs 300 people, has well staffed engineering department. Roslan Dato Jaafar, Commercial Officer, Electrical & Allied Industries Berhad, Lot 118 Section 13, Jalan Semangat, Petaling Jaya, Selangor. WTDR. P-77032. OPIC.

3643—GERMANY—Manufacturer of **electrical terminal blocks and terminal strips** with clamping parts, plugs, adaptors seeks license or joint venture to make similar products. Firm is a leader in its field. U.S. licensor should be engaged in energy distribution, electrical installation, transformation or power plants. Gerd Eisert, Phoenix Elektrizitaetsgesellschaft, Postfach 149, Flachsmarktstr, 4933 Blomberg. Telex: 0935863. P-77008.

3662—GERMANY—Firm seeks exchange of licenses with U.S. manufacturers of **audio and visual terminals** for communicating between home and outside entrance. Units can be used in single homes, apartments, condominiums, offices, institutions, industrial plants. Established 1947, employs 700. Joachim Loh, Hailo-Werk Rudolf Loh KG, 6342 Haiger. Telephone, 02773-821; telex, 0873960. P-77023.

3732—AUSTRALIA—Small firm seeks equity and/or joint venture capital to expand production of **steel hulled, plywood superstructure 38-ft. semi-houseboat,** from 10 to 30 units per year to meet increasing demand. Hull construction process is patented. Would consider licensing for production in U.S. as part of investment package. Is also interested in acquiring propulsion technology on joint venture or licensing basis. Allan Borr, Pres., A. B. Welding & Engineering, 1187 Lytton Road, Hemmant, Queensland, 4174. P-77009.

3675—JAPAN—Seeks exclusive licensing agreement for latest U.S. technology to produce **plastic film capacitors with capacities ranging from 100 pico-farads to 3.3 micro-farads for small sized electronic machinery, equipment.** Firm will purchase necessary production equipment from U.S. licensor. Company produces raw silk and manufactures plastic film capacitors. Employs 1,600, had sales of $24 million, 1975. Shigeru Kobayashi, Dir., Planning & Research Div., Shinei Kaisha, Ltd., 77-1 Kyomachi, Ikuta-ku, Kobe 651. Cable, SHINEI KOBE; telephone, Kobe 078-321-1121; telex, 5622117. P-77034.

3824—GERMANY—Firm seeks licensing agreement for manufacture of its **PLU Type 106 servo-controlled flow meters.** PLU Type 106 flow meter has been designed for motor vehicle repair shops as means for fast fuel consumption tests; is suitable for in-car as well as for test rig application. Device offers direct read-out of fuel consumption; helps to avoid time consuming installation, measuring operations. Flow meter is also suitable for fuel consumption measuring operations and similar applications, such as in chemical field. Established 1910, employs 400. Dr. H. J. Henning, Pierburgh Luftfahrtgeraete Union GmbH, Postfach 989, Bataverstrasse 80, 4040 Neuss. P-77033.

3861—GERMANY—Seeks licensing arrangement, technical know-how for production, assembly, and/or servicing in West Germany of **microfilm equipment such as scanners, readers, copiers.** Firm is equipped with modern production facilities, skilled staff. Established 1946 for production, distribution of electrical/electronic measuring, controlling instruments for industrial, commercial use. Geraetebau Eltville GmbH, c/o Ewald Reineke, Leiter, Technischer Bereich, Erbacher Strasse 33, D-6228 Eltville/Rhein. Telephone, 06123-4014; telex, 4 182 441. P-77010.

5812—JAPAN — Firm seeks franchise agreement to bake and retail **pancakes, other dough products.** Franchised business which has not been introduced in Japan is desired. Established 1970, has 50 employees; 1975 sales turnover was $1.4 million. Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-77024.

8911—SAUDI ARABIA—Seeks joint venture with U.S. **civil engineering firm** to engage in following: housing complexes, sewage projects, water distribution, drainage systems, highways. Would also assist U.S. partner in bidding on government tenders. Hossain O. Balkhy, Gen. Mgr., TAL Corp., King Faisal St. (Prince Mohammed Bin Saud Bldg.), P.O. Box 3920, Riyadh. Cable, NAJLACO; telephone, 30717. P-77011. OPIC.

Botswana Seeks Suppliers Of Educational Equipment

The Government of Botswana invites suppliers of educational furniture and equipment to participate in the "Boipelego Education Project." Suppliers must be from member countries of the World Bank. Materials purchased will be for secondary schools, teacher training and adult education facilities. Also materials for training through radio and correspondence methods, brigade programs, and a multi-purpose education center are required. U.S. firms interested in additional details should write to the Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-77012.

Licensing In U.S.

For additional information on these opportunities to manufacture foreign firms' products in the United States under a licensing agreement or in partnership, write the Domestic Investment Services Staff, Bureau of International Commerce, Room 4020, U.S. Department of Commerce, Washington, D.C. 20230 (202-377-5361), referring to the appropriate file number.

Investments in facilities

BELGIUM — Medium sized company wants to start its own manufacturing facilities in U.S.—to employ 50-100 American workers—for production of **transformer measuring equipment** used in power industry. Write: L. Grisay, Commercial Dir., Balteau s.a., rue de Magnee 54, B-4610 Beyne-Heusay. Telex, Balto b 41 268; telephone, 041-58-56-50. File 3241.

Joint venture opportunities

FRANCE—Manufacturer of **geophysical apparatus, radiolocation systems, data acquisition and processing systems, opto-electronics instruments and wiring machines** is seeking joint venture partner in U.S. to produce and market its products. Firm is prepared to market U.S. products in Europe. Since shipbuilders, naval installations and maritime carriers are biggest customers, preferred locations are West Coast, Northeast or Gulf coast. French company is looking for small, one or two-product electronics company with strong technical staff of about 100 people and preferably good connections in marine field. It will invest both funds and technology; wishes to start U.S. production in late 1977. Write Philippe Angelle, Tech. Dir., Societe d'Etudes Recherches, et Constructions Electroniques (SERCEL), Ave. de Bel Air, 44040-Nantes, Cedex 25. Telex: 71695. File 3242.

GERMANY—Company is interested in establishing joint venture in U.S. in manufacture of **traffic signs.** Write: Trautwein KG, Postfach 1609, 4350 Recklinghausen. File 3243.

GERMANY—Manufacturer of **electrical terminal blocks and terminal strips with clamping parts and spring clips, plugs, adaptors, socket connectors** seeks joint venture partner for manufacture in U.S. Write: Gerd Eisert, Phoenix Elektrizitaetsgesellschaft, Postfach 149, Flachsmarkstr., 4933 Blomberg. Telex: 0935863. File 3244.

GERMANY—Engineering company offers its new patented inventions consisting of **processes, systems and installations for use in energy, environmental control, chemical industries** on joint venture or licensing basis. Processes include: Synthesis gas produced from "high inerts containing coal;" system for recycling and separation of glass, paper plastics from household, industrial wastes; production of xylit (sugar) and animal foodstuffs from wood and one-year-old plants. Firm will provide know-how, and an amount of capital, and build installations. Write: Karl-Heinz Brachthaeuser, PCV Projektrierung Chemische Verfahrenstechnik Gesellschaft mbH,Grabenstr. 5, 4000 Duesseldorf. Telex: 08588144. File 3245.

GERMANY—Company is interested in arranging joint venture in U.S. for manufacture and sale of **explosion proof industrial heating equipment, industrial and laboratory controls and regulators for gasses and liquids.** Write: Elmess-Elektrogeraetebau, Nordallee 1, 3110 Uelzen 1, Germany. Telephone: 0581-6058. File 3246.

Licensing

AUSTRIA—Medium sized company wants to license manufacture in U.S. of its **wire feeding devices** for production of springs, fish hooks, pins, clips, other. Write: STIWA Fertigungstechnik Am Steinhuebl, P.O. Box 53, A-4800 Attnang-Puchheim; attention, Walter Sticht. Telephone, 7674/8103; cable, STIWA, ATTNANG; telex, 26/652. File 3247.

BELGIUM—Company offers for U.S. manufacture its **press with two oscillating dies for mass production of screws** and other like articles with diameter up to 4 mm. with capacity to 600 pieces per min. (reported to be 30 percent higher than with existing machinery). Write: Miss Doris Atkind, Trade Promotion Officer, European-American Bank & Trust Co., 10 Hanover Square, New York 10015. Telephone: 212-437-4300. File 3248.

FINLAND—Company offers for U.S. manufacture its patented **tire studs** that hold on ice when required, and retract on bare concrete or asphalt. Claimed to be safer than existing stud systems, increases passenger comfort, do virtually no damage to road surfaces. Write: Juhani Paavola, Arisuo Oy, Box 7, SF-20781 Kaarina. Telex, 62440; telephone, 921-431-444. File 3249.

FRANCE—Company wants licensee to produce its patented **anti-pollution and gas-saving device.** Write: Albert Pellerin, Mgr., Les Fabriques Groupees, 31-35 rue Lambrechts, 92400 Courbevoie. Telephone: 788-4793. File 3250.

GERMANY—Company wants to cross-license **residential, industrial communications and security systems** including both audio and visual terminals. Write: Joachim Loh, Hailo-Werk Rudolf Loh KG, 6342 Haiger. Telephone, 02773/821; telex, 0873960. File 3251.

GERMANY — Hailo-Werk Rudolf KG, above, also offers its **switch-gear boxes, cabinets, consoles** for U.S. manufacture. File 3252.

GERMANY — Hailo-Werk Rudolf KG, above, also offers its **built-in furniture systems for kitchens** including swing-out type trash container, pull-out table systems, brackets, and other items. File 3253.

GERMANY—Company offers for U.S. manufacture its **tubular axle, other specialty power systems; remote control systems for activating these power drives; pneumatic safety triggering rail for powered garage and other door systems.** Devices are used with power-driven jalousies, roll-down window, doors and curtain systems, garage doors. Write: Hermann Braeuer, Becker-Antriebe GmbH, Friedrich Ebert Strasse 2-4, D-6349 Sinn. Telephone, 02772-2008; telex, 08-73419. File 3254.

GERMANY—Company offers its **plastics recycling machine** for reducing plastic scrap to a re-usable granulate. Machine can process polymer sheets, sacks, bags, filaments, wadding, other. Write: Gerhard Weiss, Weiss GmbH, KG, Maschinen fuer die Kunststoffindustrie, Kasseler Str. 44, D-6340 Dillenburg. Telephone, 02771/6795; telex, 873925. File 3255.

GERMANY—Company offers its **drawing machines for wire and cable,** and **diamond elements** used in machines for manufacture in U.S. under license. Machines incorporate ultra-sonic and electronic controls, and are used in wire, cable, other industries drawing steel, copper, aluminum into finished products. Write: Ing. Willi Schaaf, Paul Schaaf & Co. KG, 6349 Mittenaar-Bicken/Dillkreis. Telephone, 02772/62016; telex, 873489. File 3256.

GERMANY—Company offers its **air bubble bath equipment** for production in U.S. under license. Write: Walter Rottinghaus, Neumod Gesundheitechnik, Schwalbenstr. 5, Postfach 58, 2902 Rastede. File 3257.

GERMANY—Engineering firm specializing in hydraulic and pneumatic machinery and apparatus wants to grant production license in U.S. for: 1) **ski training device** that enables enthusiast to strengthen and tone muscles pertinent to skiing in his own home; 2) **'Polyflex' tooth coupling** with intermediate tube, and **hinge spindle** with spindled shaft for machine tools/rolling mills. Write: Heinz Regenhardt, c/o Ing-Buero Regenhardt, Burgunderstr. 29a, 4000 Duesseldorf. Telex: 08586898. File 3258.

GERMANY—Manufacturer seeks U.S. licensee for production of cotton underwear, nightwear and bathing suits. Write: Norbert Hanke, Pompadour-Waesche GmbH, 3284 Schieder-Schwalenberg 1. File 3259.

GERMANY—Company is seeking licensee in U.S. to produce its **armature valves for oilfield equipment,** such as Christmas trees and bore-hole flanges. Write: Hermann von Rautenkranz, Internationale Tiefbohr KG, ITAG, Itagstrasse 5-17, 31 Celle. Telephone: 05141/2041. Contact: Dietmar von der Fecht. File 3260.

GERMANY—Company wants to license manufacture of **bodies for industrial waste trucks.** Write: Miss Doris Atkind, Trade Promotion Officer, European-American Bank & Trust Co., 10 Hanover Sq., New York 10015. Telephone: 212-437-4300. File 3261.

GERMANY—Large company is offering its **generators, high pressure steam boilers, waste heat boilers, water tube boilers, thermal oil heaters, non-polluting industrial waste elimination systems, and recycling and sewage treatment systems.** Write: Eckart Hein, Standardkessel, Postfach 120403, 4100 Duisburg. Telex: 0855650. File 3262.

SWEDEN—Large company is offering licenses for its **processes for removal of mercury concentrated in sulfuric acid manufactured from sulfur dioxide produced in smelting of sulfide ores.** Four of processes clean feed gas in commercial plants already in operation; remaining two have been successfully tested in pilot operations for removal of mercury from contaminated sulfuric acid. Write: Olof Sundstrom, Sr. Consulting Metallurgist, Boliden Group Management, S-932 00 Skelleftea. File 3263.

SWEDEN—Company seeks U.S. licensee to manufacture its patented **fume exhaust system** used as portable unit or mounted as permanent installation. Write: Heidi Engdahl, Swedish Trade Commissioner, 10880 Wilshire Blvd., Suite 914, Los Angeles, Calif. 90024. Telephone: 213-475-4501. File 3264.

SWEDEN—Company seeks U.S. licensee to manufacture its unique **adjustable door frame for firedoors** that reportedly takes two persons about 10 minutes to install. No drilling or fastening in wall necessary. Write: Hans Bottner, Asst. to Swedish Trade Commissioner, 17117 West Nine Mile Road, Southfield, Mich. 48075. Telephone: 313-559-4844. File 3265.

SWITZERLAND—Manufacturer of **optical instruments** such as hollow-part inspection systems, cold light sources, opto-electronic measuring and scanning instruments, seeks U.S. licensee. Write: N. Moraschetti, Dir., Volpi AG, Bernstrasse 129, 8902 Urdorf, Switzerland. Telephone 01/7341620; telex, 56591. File 3266.

Hungarian Enterprises Seek Production Partners

Several Hungarian enterprises, producing a variety of instruments and equipment, are interested in obtaining a partner for each of four operations, as follows:

Reprocessing of textile waste. Partner is sought who could provide know-how and supply special equipment for manufacture of textiles, as listed, from reprocessed, secondary, or waste materials, and sell on his own markets part of products manfactured under cooperation: Vigogne yarn; carded woolen and shoddy yarn; semi-worsted yarn for hand and machine knitting, for which technology includes dyeing capacity and twisting procedure; nonwoven products by mechanical process, including finishing technologies—such as filling, decorative cloths, blankets, packing and insulation materials, cloth for industrial and household use; wadding products for motor vehicle industry, upholstery; quilts, mattresses, cushions.

Sterilizer installation. Manufacturer of laboratory instruments, germ separators, therapeutic sterilizer installations for medical purposes, seeks partner prepared to transfer his know-how and licenses, and to ensure new markets for joint production. Foreign partner would be expected to procure parts and subassemblies from Hungarian partner.

Electronic laboratories. Producer of measuring instruments for repair-workshops and training laboratories seeks partner who supplies laboratories for educational (training) institutions and would be prepared to procure electronic measurement units for equipment from Hungarian company—which is prepared to modify designs or to purchase, for manufacture, an already developed system. Company has, in several countries, an established service network which can join in cooperation for servicing partner's customers.

Rubberized textile containers, storage bins. Producer of rubberized textile containers and silos—yearly production capacity, 2,000-3,000 pieces—wishes to enlarge production capacity through cooperation. Partner is sought to provide know-how, technical assistance; 50 percent of products to be sold on Hungarian market, partner to distribute remainder abroad.

Interested parties should write: Mrs. J. Richter, Intercooperation Co. Ltd. for Trade Promotion; H-1253 Budapest I, Attila U.14, Hungary.

The following trade opportunities are based on reports received from the U.S. Foreign Service—Department of State by the Trade Opportunities Division, Room 2323, U.S. Department of Commerce, Washington, D.C. 20230. The commodities in which foreign firms have interest indicated by codes 0111-1799 and 4011-8999 are based on the Standard Industrial Classification Manual, 1972; codes 20 through 39 come from Numerical List of Manufactured Products (New 1972 SIC Basis), MC72-1, 2. Codes beginning with 99 are from the TOP coding system.

U.S. firms should be aware that the listing in Commerce America *of opportunities to trade in specific commodities and technical data does not necessarily imply approval of their export by the Department of Commerce pursuant to the Department's Export Administration Regulations. Applicable export licensing regulations must be followed.*

Every effort is made to include only traders with good reputations. However, the Department cannot be responsible for any trade relations.

WTDR indicates that a World Traders Data Report on this specific firm is available at $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230. A WTDR is a trade profile which contains commercial information including financial references, on an individual foreign firm. Orders must include complete name and address of the subject firm and be accompanied by payment. Further information concerning WTDRs and request forms are available at each Commerce District Office.

The mark (●) indicates that this trade opportunity is a request for bids by a foreign government agency.

Direct Sales

Clay

1452, 1472—SPAIN — Bentonite; barite. Fairly large firm handling wide variety of products. Imports from various undisclosed sources & sells throughout Spain. Quotations c.i.f. Spanish port. Dir. sale & agency. Reply to Industrias Polo Congregado, S.L., General Varela, 2, Madrid 20. Cable Congregado; telex 22687; tel 91/456-4300.

General building contractors

● **1542, 3841000, 3842000—ECUADOR**—Social Security Institute (IESS) has announced tenders for construction of burn treatment center and cancer treatment center. Bids are only for construction of centers and are directed at local contractors. U.S. Embassy assumes bid for equipping centers will follow when construction is completed. Due to technical nature of cancer and burn equipment, U.S. Embassy feels U.S. suppliers will be in unique position to equip centers. Embassy will advise as soon as bid announcements are published. U.S. firms required to have Ecuadorean agents, citizen, or legally established resident, to participate in Government of Ecuador tenders. If you do not have a representative, contact nearest Commerce District Office.

Chemical products

● **2899000, 3822000—MEXICO** — Quotations wanted on fire extinguishing foam charges suitable for control of shipboard fires, neutralizing agent for oil spills, and pollution-control measuring instrumentation. Tender number 531-60-34. Write to Captain Enrique Amado Cardenas, Gerente De Marina, Petroleos Mexicanos, Marina Nacional 329, Mexico, D.F.

Glass products

3231638—GERMANY—Glassware for lab & hospital use; similar supplies & equip. Est. annual import volume $40,000. Direct sale for resale to endusers & dealers; sales rep./distr. for Germany. Buyer, smaller glassware mfr. with staff of 100 & dm 3 million in annual sales, wishes to expand. Quote prices c.i.f. Hamburg. Terms of payment L/C. Reply to W. Leuser, Paul Marienfeld KG, Postfach 1523, D-6960 Bad Mergenthein. Calbe Marienfeld; telex 74285; tel 07931/6025.

Steel mill products

● **3310000—BURMA** — 2,500 m.t. structural steel. Tender No. ADB 241-BUR (SF) 76; bid deadline Feb. 18. Textile Industries Corp., Pyidaungsu Yeiktha Rd., Rangoon. Tender documents available from above address at $30 per set.

Engines, turbines

● **3511000, 3559000—PAKISTAN** — State Cement Corp., a Federal Government entity, under its expansion plans, is preparing new bid documents for supply of machinery and equipment for Spintangi Cement Plant, 1,000 tons per day dry process cement plant. Bids for Spintangi were originally invited November 1974. New bid invitation expected to be issued during Feb. or March. Details on machinery and equipment not yet known, but believed to include: cement kiln, quarry machinery, limestone crushing plant, raw material and finished product handling, packaging, storage and transportation equipment, raw material grinding machinery, etc., spare parts for routine maintenance and replacement, complete laboratory equipment for cement factory, complete power house machinery and equipment for cement plant. Project is 51 percent Pakistan, 49 percent Iran venture. Foreign exchange component (expected to be over $20 million) to be met from Iran's investment and Pakistan's own resources. Contact: State Cement Corp. (SCC), 307 Wapda House, Lahore.

Special industry machinery

● **3559543—TURKEY** — Turkish Cement Industries will purchase 14 cement mills. Bid deadline Feb. 8. Tender specs. available from tenderer at TL2,000 (approx. U.S.$121.21). Write to Turkiye Cimento Sanayii T.A.S. Genel Mudurlugu, Ataturk Bulvari 201, Kavaklidere, Ankara (Turkish Cement Industries), or to Turkiye Cimento Sanayii T.A.S., Istanbul Irtibat Burosu, Alim Ve Satim Mudurlugu, Salipazari, Meclisi Mebusan Caddesi, Dursun Han, Kat 4, Findikli, Istanbul.

Service industry machines

3582000—SAUDI ARABIA—Several financially capable Saudi firms plan to establish laundromats throughout urban areas of the kingdom and possibly in the Gulf states. U.S. firms send offers of equipment and set-up proposals to: Commercial Attache, American Embassy, Jidda.

Communications equipment

● **3661000—INDIA**—Superintending Engineer, State Electricity Board, 4-A Gokhale Marg, Lucknow, U.P.7, has issued global tender #15, for design, supply, installation, testing, and commissioning of power line carrier protection and communication equipment for 400-KV system. Bid deadline Feb. 9. Copy of specifications available from above address for RS. 500 (approximately U.S. $55).

● **3661000—IVORY COAST**—M. le Directeur General des Telecommunications, Direction des Programmes et de l'Equipment, Bureau des Marches, 21eme etage, Hotel des Postes et Telecommunications, Port 17, Abidjan, has issued tender number 76-2349/OPT/DGT/OPE/M, for supply of telephone and telegraph transmission equipment, bid deadline April 5; and tender number 76-2346/OPT/DGT/DPE/M for supply and installation of telegraphic switching equipment and teleprinters, bid deadline Feb. 26. Correspondence in French mandatory. Copy of specifications for each tender available free from above address.

● **3661000—URUGUAY** — Administracion Nacional de Telecommunicaciones (Antel), Palacio de la Luz, Paraguay 2431, Paso 10th, Montevideo, has issued tender number 022 for supply of 200 teleprinters, stationary carriage type, with related terminal equipment. Bid deadline March 8. Bids must be submitted through authorized local agents. Copy of specifications available from above address.

● **3662000, 3825000—BOLIVIA**—Empresa Nacional de Electricidad S.A., Casilla 565, Cochabamba, has issued tender number Credito Aid 511-LT-46 and 511-LT-49, for supply of five telecommunications systems, plus vehicles, test and measuring equipment, tools, etc. Bid deadline Feb. 15. Copy of specifications available from National Rural Electrification Cooperative Assn., 2000 Florida Ave., NW., Washington, D.C. 20009, for $40.

Instruments for measurement, analysis and control

● **3825000—THAILAND**—Purchases and Stores Department, Metropolitan Electricity Authority (MEA), 121 Chakpetch St., Bangkok 2, has issued tender number ADB-MEA-311, for supply of 2,300 watt-hour meters and watt-hour demand meters, three-phase, for use on electrical distribution system, 30 (100) amps, 220/

380V, 4-wire-Y with indicating demand register and cumulative demand register; 700 similar meters, but 50 (150) A amps; 800 similar but 2.5 (10) amps; 230 Var-hour meters with provision for padlock-seal, plus other types of meters. Bid deadline Feb. 22. Copy of specifications available from above address at $5.

Scrap & waste materials

5093 — PAKISTAN — Rubber scrap (butyle bagomatic bladders). Quantity about 1,000 tons. Value approx. $250,000. Medium-sized importer of rubber scrap, chemicals all sort, plastic molding compound & tanned leather. Imports from U.S., Japan, Germany, U.K. & Netherlands. Wishes to import for sale to others. Requests c.&f. Karachi quotations against L/C. Claims annual sales at $1.5 million. Employs 10 including 2 salesmen. Reply to—Mohammed Umer, Proprietor, Import Trade Agency, 6 Wazir Mansion, 1st Floor, Nicol Rd., Karachi. Cable: HOMELAND Karachi; Tel: 231702.

Business services

7392000, 3535000, 3536000, 3537000, 3711200 — PERU — Sr. Jaime Guiulfo Suarez, Presidente, Naviera Fluvial Loretta S.A., Garcilaso de La Vega 1501, of. 501-508, Lima 14; telex: 25846 GUIULFO; tel: 71-2420, is interested in contacting U.S. firms capable of providing assistance for his company's plans to improve its existing freight transportation by mounting containers on barges. Company bulk-handles and transports wheat flour, noodles, canned foods and other foodstuffs in Amazon basin. This potential $2 million transportation improvement program offers opportunities for specialized transportation systems' consultants and equipment suppliers.

Representations

Foreign private firms are interested in agency agreements and/or distributorships for these products.

Pottery, related products

3262052—BOLIVIA — Kitchen, cooking, preparing & storing food & drink equip. for hotels; different types & materials. Reply to N. Sainz Y Asociados, Nestor Sainz, Casilla 8668, La Paz.

Surgical, medical, dental instrum.

38430XX—SWITZERLAND — Dental instruments, products and supplies, as sold to dentists and the dental trade. Reputable, active distributor of dentist supplies. Est. 1970. Acts as wholesaler all over Europe. 6 traveling salesmen, 21 employees. Will participate in 15 trade fairs and dentists' conventions in Europe in 1977, Can provide technical support, aftersales service. Repr. MDT Sterilizers, Los Angeles, and two German manufacturers. Business strongly recommended. Reply to—Pierre H. Weill, Dir., Unident SA, 39 Rue Peillonnex, 1225 Chene-Bourg/Geneva. Tel: 022/497122; Telex: 289451.

Photographic equipment, supplies

3861739—PERU—Heat transfer paper, to transfer design to textile fabrics. Small firm estab. 1961 to engage in importation & wholesale of fabrics, mainly rubber covered fabrics, battery separators, textile looms for upholstery fabrics, & carpet accessories. Formerly represented Texon Inc., South Hadley, Mass.; Roberts Consolidated, Los Angeles; Rubyco Mills, Montreal; & Michel van de Wiel, Belgium. Joe Franco, mgr. of firm, has good contacts with local businessmen in textile & automotive industries. Interested in acquiring new representations because products formerly represented can no longer be imported into Peru. This may be a good prospect for interested U.S. firms. Reply to Joe Franco, Dir., Compania de Importaciones Albert S.A., P.O. Box 3675, Jr. Lampa 349, of. 31, Lima 100. Tel 28-6137.

Motion pictures

7813 — BAHRAIN — Educational films. Medium-size firm acting as agent/importer of above. Supplier of such products to public and private schools. Seeking direct sales & agency representations. Reputable & well established. Reply to—Mohammad Mofiz Uddin, Mgr., Scientific & Industrial Supplies, P.O. Box 5446, Tariq Bin Ziyad Rd., Manama. Cable: SCIENCE; tel 714737. Ref: Bank of Bahrain & Kuwait, P.O. Box 597, Manama.

Future Construction Abroad

INDIA—Ministry of Agriculture has launched a **National Seed Program** (NSP), for development of seed industry in the country, to be implemented in two phases. NSP would support all aspects of seed program, from breeder and foundation seed production through certified seed production, processing, storage and marketing. While time schedule for phase II is not determined as yet, phase I of NSP was initiated in Oct. Phase I program is estimated to cost about $50 million, including about $10 million in foreign exchange. Government has received loan of $25 million from World Bank for implementing phase I. This would cover all foreign exchange cost and about 30 percent of local expenditure. Government has requested IDA line of credit amounting to $25-30 million. When approved, this amount would be utilized for financing phase II. Project calls for purchase of different categories of land development machinery, crop production equipment, seed processing and storage equipment, cooling, dehumidifying and laboratory equipment. Major items of seed processing equipment, farm machinery and related facilities would be procured on basis of international competitive bidding in accordance with usual World Bank guidelines. Invitations to bid expected to be issued after March. Further project details can be obtained from: N. S. Maini, Mng. Dir., NSP, Beej Bhavan, CTO Premises, Pusa Complex, New Delhi 110012. OPIC.

EGYPT—The Railways Authority will soon be issuing tender for study of **reorganization of traction and rolling stock maintenance shops** which it operates. Study is to include: A) inventory of all stock and equipment, review of personnel set-up, and way resources are utilized; B) recommendations to improve quality and efficiency of operations, including assessment of cost and economic impact of recommended actions; and C) plan for carrying out recommendations. Study to be financed by IBRD. Interested firms should contact: Engineer Abdel Moneim Heshmat Gaddo, Chairman Egyptian Railways, Cairo Station Bldg., Ramses Sq., Cairo; Cable: ASTEROID or RAILWAYS. For additional information contact Pete Zantal, CAGNE/BIC, U.S. Dept. of Commerce, Washington, D.C. 20230; 202-377-4441. OPIC.

MOROCCO — Ministry of Agriculture, Monsieur le Directeur, Office National de Mise en Valeur Agricole du Tadla, Fquih Ben Salah, is seeking qualified firms for engineering study and realization of **water supply and distribution** in four rural centers located in Beni-Amir irrigated area. Closing date for submittal of offers Feb. 23. For additional information contact Pete Zantal, 202-377-4441. OPIC.

AUSTRIA—The Austrian Oil Administration (OeMV) will spend about $140 million to construct **two natural gas pipelines** between 1977 and 1980. The "West-Austria Gas Pipeline" will ship Soviet gas from the Austrian-Czechoslovakia border to the West German border for eventual delivery to France, while the "South-East Gas Pipeline" will branch off from the existing "TransAustria Pipeline" to supply northern Yugoslavia. Firms interested in establishing contact with the OeMV should write: Oesterreichische Mineralolverwaltung A. G., Projektabteilung, Reichsratstr. 1, A-1010 Vienna. The OeMV may be particularly interested in technologically advanced natural gas compressors, measuring and regulating devices, and pipeline laying tools and machinery.

IRAQ—Government has decided to construct **two towns** at Akashat and Qaim (in Iraq's western desert) to house engineers and workers who will operate the phosphate complex being built there. Single contract for two towns will call for construction of 4,250 houses and necessary schools, hospital, markets, mosque, etc. Will also require construction of roads, sewerage and water supply systems, and electrical and other facilities. Master-planning and design for new town is being done by Government of Iraq State Organization for Housing in collaboration with State Organization for

The Overseas Private Investment Corp. (OPIC) offers political risk insurance on assets and bank guaranties to U.S. construction and service firms planning to submit bids on projects in certain developing countries, identified by the "OPIC" notation at the end of some items. For further information on OPIC's contract insurance programs, write Construction Insurance Officer, Overseas Private Investment Corp., Washington, D.C. 20527. Tel: 202-632-7825.

Minerals. There is no opportunity for an outside urban planner/designer. Normally government would consider modern precast concrete structures, but not prefab structures of wooden or synthetic materials. Interested U.S. firms contact State Organization for Minerals, Saadoun St., Baghdad. Telex: 2292 Som Ik.

UNITED ARAB EMIRATES—Although tenders have already been solicited for several phases of Abu Dhabi's **sewer system extension,** several phases with total value of perhaps more than $100 million are still to be tendered in April, May and June, 1977, and in 1979. John Taylor and Sons, project consultant, recently announced that contractors wishing to tender for future phases should register with Abu Dhabi Sewerage Projects Committee, Fayad Bldg., Sheikh Hamdan St., P.O. Box 3487, Abu Dhabi. Registration questionnaires available from the committee. No closing date for registration announced. Sewage project phases still to be tendered are Nos. 145 and 146 for Mosafa Industrial Area subsidiary sewers, Nos. 119 and 128 for pumping stations and trunk sewers on Abu Dhabi Island, and No. 123 for house connections. For additional information contact: Joe Lill, Cagne/Bic, U.S. Dept. of Commerce, Washington, D.C. 20230; 202-377-4441.

BURUNDI—Firms interested in prequalifying for construction of Bujumbura-Mutambara **highway** must submit in French by Feb. 11: A) declaration of intention to bid with company name or names of companies in group; B) statement certifying company is located in African Development Fund member country (United States is member); C) complete information on company's status; D) testimonials of technical and financial resources; and E) descriptions of previous works. Send to S. E. Monsieur le Ministere des Travaux Publics, de l'Equipement e du Logement a Bujumbura, in envelope with notation Nationale No. 3 Bujumbura-Mutambara. Additional information on this African Development Bank-financed, 76-kilometer highway is available from Ministere des Travaux Publics, address above; or Banque Africaine de Development, Boite Postale 1387, Abidjan; or I.T.S. Servizi Tecnici Internazionali, Via Di Villa Sacchetti, 11, 00197 Rome, telex 81347 Its. OPIC.

Visiting Buyers & Officials

DENMARK—Jakob Abramovitz wants to locate U.S. suppliers of **bakery equipment, catering equipment and coin-operated amusement machines.** He will be visiting the U.S. for approximately one month beginning Jan. 18. U.S. firms may contact him through Annette Napper, Foreign Buyer Program, Room 2322, U.S. Department of Commerce, Washington, D.C. 20230, 202-377-3265.

SWEDEN—Vendela Lamm, Claes du Rietz and Malon Orner, representing the Swedish Marketing Federation, will be visiting the United States for 3 to 4 weeks and are interested in meeting with U.S. **marketing consultants and marketing offices** of U.S. firms with a view toward applying American techniques to the marketing of U.S. products in Sweden. Contact Annette Napper, 202-377-3265.

GERMANY—Josef Regensburger is interested in representing and visiting **tanneries, leather processing plants, leather manufacturers and lamb skin dealers** while in the United States. He will be in the U.S. until about Jan. 29. Contact Annette Napper, 202-377-3265.

AUSTRALIA—Special purpose **tractors** specifically designed to operate in hilly country and along highway embankments, etc. Visitor from Melbourne is prepared to travel to U.S. on short notice. Contact Annette Napper, 202-377-3265.

ECUADOR — Established importer and exporter of seafood products seeks to contact American suppliers of equipment for fast-food restaurants such as **coffeemakers, deep-fat fryers, sandwich grills and drink dispensers.** Call Peter Alois, 202-377-3265.

TRINIDAD—Officials of the Ministry of Industry and Commerce wish to visit the United States to study the U.S. **bakery industry** and to purchase U.S. equipment and technology. Specifically, the Commission of Inquiry on the Bakery Industry is interested in sanitation, quality control, work conditions and training programs. Group would like to visit U.S. manufacturers of equipment, functioning bakeries and training schools. Since the largest mills in Trinidad consume about 40,000 barrels of flour per year, the Commission is most interested in acquiring modern technology geared to this size of operation. American firms and organizations interested in meeting these visitors contact Bill Corfitzen, Room 2322, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-2068.

EL SALVADOR—Dr. Antonio Tarquinio De Souza, Vice President of Construtora Jose Lessa Ribeiro, is visiting the United States to meet U.S. manufacturers of **prefabricated concrete homes** and to purchase know-how and building materials for the production of same in Bahia. Dr. Souza plans to visit Miami, Atlanta, Washington, D.C., New Orleans and Houston. His company is one of the leading civil construction companies in Bahia. He would also like to explore the possibility of forming joint venture agreements with American firms. Contact Bill Corfitzen, 202-377-2068.

SWEDEN—Viktor Ramell, Mng. Dir., Firma Viktor Ramell, Goteborg, will visit the United States to purchase **raw materials and machinery for the manufacture of paint, varnish, and printing ink, including organic and inorganic pigments, dry and paste, and non-poisonous substitutes for chrome yellow.** He also seeks **washing and cleaning systems** used in the above industries. Ramell is interested in becoming agent/representative for the above lines in Norway and Sweden. Specifically, Ramell wants a solution to the problem of cleaning and washing tanks, containers, and cisterns. He would like to acquire the most advanced, universal and flexible units and equipment to clean various sizes (100-2000 liters) of round and rectangular tanks. Reliable credit sources recommend business relations with this firm. Ramell may be contacted through Bill Corfitzen, 202-377-2068.

SUBSCRIPTION ORDER FORM

ENTER MY SUBSCRIPTION TO **Commerce America**
at $29.80. Add $7.45 for foreign mailing. No additional postage is required for mailing within the United States and its possessions.

☐ Remittance Enclosed (Make checks payable to Superintendent of Documents)

☐ Charge to my Deposit Account No.

Send Subscription to:

NAME–FIRST, LAST

COMPANY NAME OR ADDITIONAL ADDRESS LINE

STREET ADDRESS

CITY | STATE | ZIP CODE

PLEASE PRINT

MAIL ORDER FORM TO:
Superintendent of Documents
Government Printing Office
Washington, D.C. 20402

☆ U.S. Government Printing Office: 1977, 240-851/7

Commerce Building 14th Street and Constitution Ave., NW., Washington, D.C. 20230, (202) 377-2000

U.S. DEPARTMENT OF COMMERCE

ELLIOT L. RICHARDSON, Secretary of Commerce **EDWARD O. VETTER,** Under Secretary of Commerce

Secretarial Officers

Leonard S. Matthews, Asst. Secretary for Domestic and International Business

Robert J. Blackwell, Asst. Secretary for Maritime Affairs (Maritime Administration)

John W. Kendrick, Chief Economist

Richard G. Darman, Asst. Secretary for Policy

Joseph E. Kasputys, Asst. Secretary for Administration

Creighton Holden, Asst. Secretary for Tourism (U.S. Travel Service)

John T. Smith, II, General Counsel

Betsy Ancker-Johnson, Asst. Secretary for Science and Technology

John W. Eden, Asst. Secretary for Economic Development

Heads of Operating Units

Robert M. White, National Oceanic and Atmospheric Administration

Robert L. Hagan, Acting, Bureau of the Census

John M. Richardson, Office of Telecommunications

Howard D. Tipton, National Fire Prevention and Control Administration

George Jaszi, Bureau of Economic Analysis

Robert E. Shepherd, Office of Energy Policy and Programs

John P. Kearney, Office of the Ombudsman

William T. Knox, National Technical Information Service

C. Marshall Dann, Patent and Trademark Office

Ernest Ambler, Acting, National Bureau of Standards

Alex M. Armendaris, Minority Business Enterprise

Regional Secretarial Representatives

Michael A. McManus, Jr., New York City

Charles Day, Philadelphia

Richard L. Heffner, Atlanta

Daniel A. Cronin, Jr., Boston

Robert J. Hilt, San Francisco

Dr. Gayle P. W. Jackson, Kansas City

Edward L. Coker, Dallas

Fred Shanaman, Jr., Seattle

James P. Stirling, Chicago

District Offices

Albuquerque, N.M., 87102, 505 Marquette NW, Suite 1015 (505) 766-2386.

Anchorage, 99501, 632 Sixth Ave., Hill Bldg., Suite 412 (907) 265-5307.

Atlanta, 30309, Suite 600, 1365 Peachtree St., N.E. (404) 526-6000.

Baltimore, 21202, 415 U.S. Customhouse, Gay and Lombard Sts. (301) 962-3560.

Birmingham, Ala., 35205, Suite 200-201. 908 S. 20th St. (205) 254-1331.

Boston, 02116, 10th Floor, 441 Stuart St. (617) 223-2312.

Buffalo, N.Y., 14202, Room 1312, Federal Bldg., 111 W. Huron St. (716) 842-3208.

Charleston, W.Va., 25301, 3000 New Federal Office Bldg., 500 Quarrier St. (304) 343-6181, Ext. 375.

Cheyenne, Wyo., 82001, 6022 O'Mahoney Federal Center, 2120 Capitol Ave. (307) 778-2220, Ext. 2151.

Chicago, 60603, Room 1406, Mid-Continental Plaza Bldg., 55 E. Monroe St. (312) 353-4450.

Cincinnati, 45202, 10504 Federal Office Bldg., 550 Main St. (513) 684-2944.

Cleveland, 44114, Room 600, 666 Euclid Ave. (216) 522-4750.

Columbia, S.C., 29204, Forest Center, 2611 Forest Dr. (803) 765-5345.

Dallas, 75242, Room 7A5, 1100 Commerce St. (214) 749-1515.

Denver, 80202, Room 165, New Custom House, 19th and Stout Sts. (303) 837-3246.

Des Moines, Iowa, 50309, 609 Federal Bldg., 210 Walnut St. (515) 284-4222.

Detroit, 48226, 445 Federal Bldg., 231 W. Lafayette (313) 226-3650.

Greensboro, N.C. 27402, 203 Federal Bldg., W. Market St., P.O. Box 1950. (919) 378-5345.

Hartford, Conn., 06103, Room 610-B, Federal Office Bldg., 450 Main St. (203) 244-3530.

Honolulu, 96813, 286 Alexander Young Bldg., 1015 Bishop St. (808) 546-8694.

Houston, 77002, 2625 Federal Bldg., 515 Rusk Ave. (713) 226-4231.

Indianapolis, 46204, 357 U.S. Courthouse & Federal Office Bldg., 46 E. Ohio St. (317) 269-6214.

Los Angeles, 90049, Room 800, 11777 San Vicente Blvd. (213)824-7591

Memphis, 38103, Room 710, 147 Jefferson Ave. (901) 521-3213.

Miami, 33130, Rm. 821, City National Bank Bldg., 25 W. Flagler St. (305) 350-5267.

Milwaukee, 53202, 605 Federal Office Bldg., 517 E. Wisconsin Ave. (414) 224-3473.

Minneapolis, 55401, 218 Federal Bldg., 110 S. Fourth St. (612) 725-2133.

New Orleans, 70130, Room 432, International Trade Mart, 2 Canal St. (504) 589-6546.

New York, 10007, 37th Floor. Federal Office Bldg., 26 Federal Plaza, Foley Sq. (212) 264-0634.

Newark, N.J., 07102, Gateway Bldg. (4th floor) Market St. & Penn Plaza (201) 645-6214.

Omaha, Neb., 68102, 1815 Capitol Ave., Suite 703A (402) 221-3665.

Philadelphia, 19106, 9448 Federal Bldg., 600 Arch St. (215) 597-2850.

Phoenix, Ariz., 85004, 508 Greater Arizona Savings Bldg., 112 N. Central Ave. (602) 261-3285.

Pittsburgh, 15222, 2002 Federal Bldg., 1000 Liberty Ave. (412) 644-2850.

Portland, Ore., 97204, Room 618, 1220 S.W. Third Ave. (503) 221-3001.

Reno, Nev., 89502, 2028 Federal Bldg. 300 Booth St. (702) 784-5203.

Richmond, Va., 23240, 8010 Federal Bldg., 400 N. 8th St. (804) 782-2246.

St. Louis, 63105, 120 S. Central Ave. (314) 425-3302.

Salt Lake City, 84138, 1203 Federal Bldg., 125 S. State St. (801) 524-5116.

San Francisco, 94102, Federal Bldg., Box 36013, 450 Golden Gate Ave., (415) 556-5860.

San Juan, P.R., 00918, Room 659, Federal Bldg., Chardon Ave. (809) 763-6363, Ext. 555

Savannah, 31402, 235 U.S. Courthouse and Post Office Bldg., 125-29 Bull St. (912) 232-4321, Ext. 204.

Seattle, 98109, 706 Lake Union Bldg., 1700 Westlake Ave. North (206) 442-5615.

U.S. GOVERNMENT PRINTING OFFICE
ASSISTANT PUBLIC PRINTER
(SUPERINTENDENT OF DOCUMENTS)
WASHINGTON, D.C. 20402

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE, $300

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
201

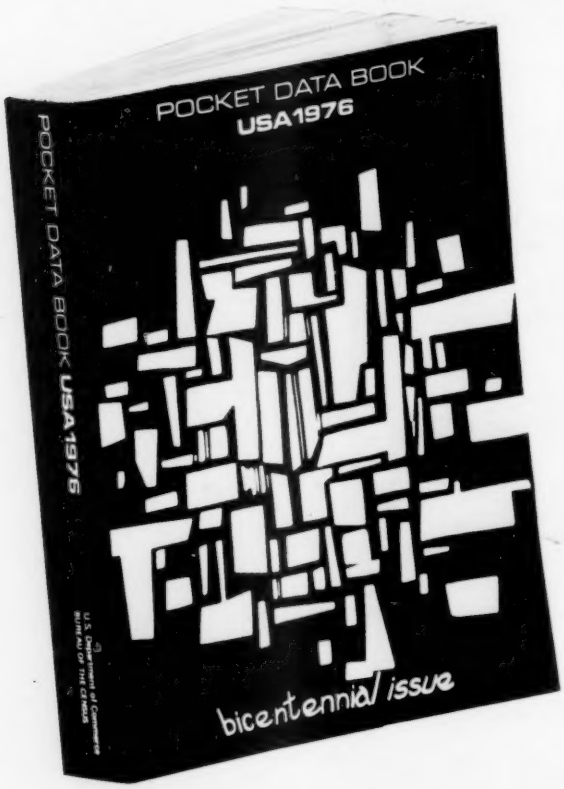
First-Class Mail

U.S.MAIL

CRTD SERIA300SAISSDUE000R 1
SERIALS DEPT
XEROX UNIV MICROFILM
300 N ZEEB RD
ANN ARBOR MI 48106

JUST PUBLISHED!

THE FIFTH- -THE BICENTENNIAL*- EDITION



* Has special section with historical tables and charts summarizing the growth and changes in the U.S. since 1776.

Copies of the **Pocket Data Book USA, 1976** may be ordered from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or any U.S. Department of Commerce District Office.

For further information, or for a convenient order form listing the **Pocket Data Book USA, 1976** and other **Statistical Abstract** supplements write:

Subscriber Services (Publications)
Bureau of the Census
Washington, D.C. 20233